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COMMERCE

M A G A Z I N E

For Better Quality Play the Odds ■

Program For Western Victory ■ ■ ■

The Trailer Makers ■ ■ ■ ■ ■ ■ ■ ■ ■

New Voice For Small Business ■ ■ ■

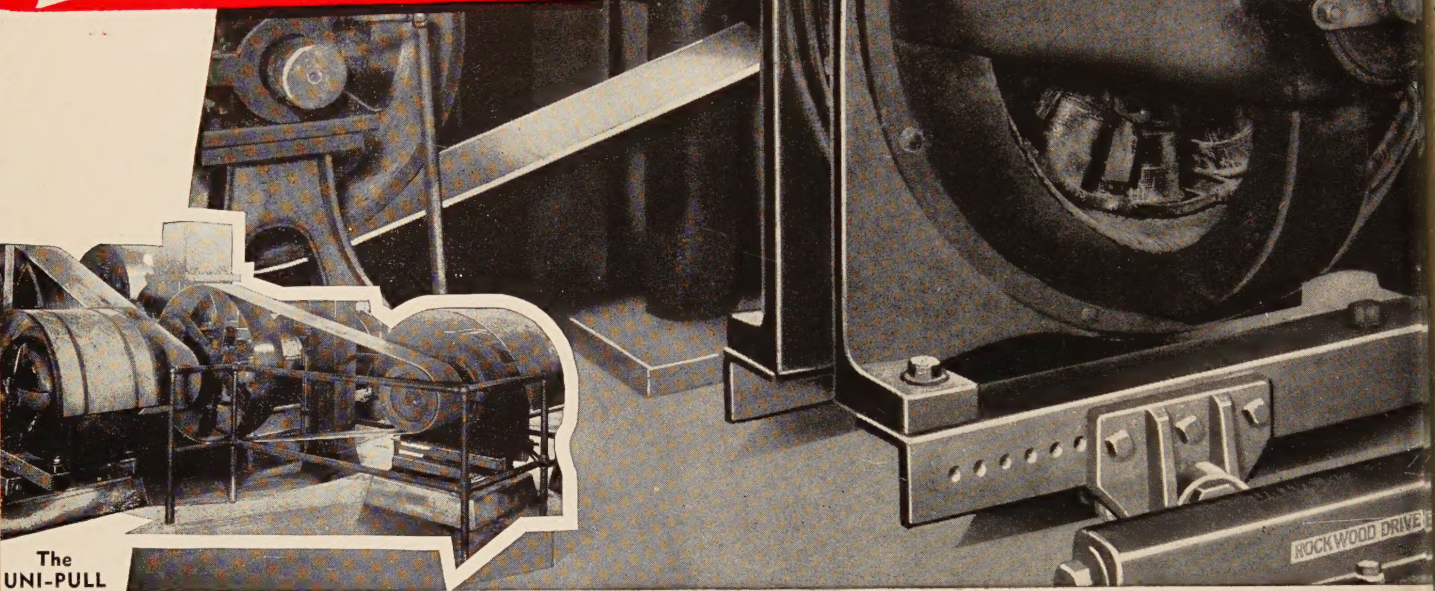
Engineering Materials Handling ■ ■ ■

NOVEMBER, 1951

35 CENTS



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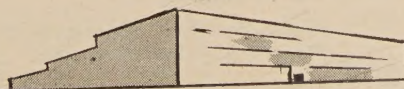
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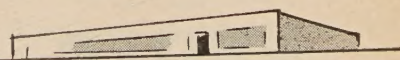
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STATISTICS OF CHICAGO BUSINESS

	Sept., 1951	Aug., 1951	Sept., 1950
Building permits	912	1,029	6
Cost	\$ 19,990,434	\$ 17,558,475	\$ 16,419,0
Contracts awarded on building projects,			
Cook Co.	1,567	2,088	1,7
Cost	\$ 37,651,000	\$ 59,638,000	\$ 48,358,0
(F. W. Dodge Corp.)			
Real estate transfers	6,289	7,341	7,1
Consideration	\$ 11,187,115	\$ 5,446,656	\$ 5,680,1
Department store sales index	226.6*	204.6	24
(Federal Reserve Board)			
(Daily average 1935-39 = 100)			
Bank clearings	\$ 3,411,011,516	\$ 3,625,296,999	\$ 3,450,041,0
Bank debits to individual accounts:			
7th Federal Reserve District	\$18,480,539,000	\$19,247,559,000	\$18,468,217,0
Chicago only	\$ 9,194,095,000	\$ 9,371,721,000	\$ 9,187,896,0
(Federal Reserve Board)			
Midwest Stock Exchange transactions:			
Number of shares traded	1,300,420	1,315,690	1,393,0
Market value of shares traded	\$ 39,315,293	\$ 39,428,070	\$ 40,997,3
Railway express shipments, Chicago area	791,682	868,091	1,002,9
Air express shipments, Chicago area	52,931	53,586	58,7
L.C.L. merchandise cars	17,851	20,759	22,3
Electric power production, kwh	1,103,594,000	1,167,690,000	1,067,346,0
Industrial gas sales, therms	11,134,343	10,485,650	9,112,0
Revenue passengers carried by Chicago			
Transit Authority lines:			
Surface division	44,546,120	45,501,586	51,524,1
Rapid transit division	11,360,342	11,907,512	11,637,7
Postal receipts	\$ 9,665,566	\$ 9,462,055	\$ 9,801,4
Air passengers:			
Arrivals	213,861	213,641	165,3
Departures	220,772	224,182	172,1
Consumers' Price Index (1935-39 = 100)	192.8†	191.9†	179
Livestock slaughtered under federal in-			
spection	425,891	431,359	467,0
Families on relief rolls:			
Cook County	21,001	21,418	27,9
Other Illinois Counties	12,867	13,271	17,5

*Preliminary figure.

†Figures are on same basis as year ago. New indexes are 191.8 for September, 1951, and 190.9 for August, 1951.

DECEMBER, 1951, TAX CALENDAR

Date Due	Tax	Returnable to
15	If total O.A.B. taxes (employer and employee) plus income tax withheld in previous month exceeds \$100, pay amount to	Authorized Deposita
15	Fourth installment (20%) of 1950 Federal Income Tax by Corporations	Collector of Intern Revenue
15	Illinois Retailers' Occupation Tax return and pay-ment for month of November	Director of Reven
31	Secure motor vehicle licenses for passenger cars and trucks for 1952.	Secretary of State
31	Chicago concerns secure city vehicle licenses for 1952	City Collector
31	Federal Excise Tax return and payment due for November, 1951	Collector of Intern Revenue

COMMERCE

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In This Issue . . .

The fascinating thing about a statistical quality control program is that you set out to accomplish one purpose, and usually wind up accomplishing several more as well. So declares Gen. Levin H. Campbell, Jr., executive vice president of International Harvester Company. Harvester has been reaping such "extra dividends" from "SQC" for years. Gen. Campbell tells the interesting story (p. 16) of his company's utilization of statistical quality control in operations ranging from machining to order recording.

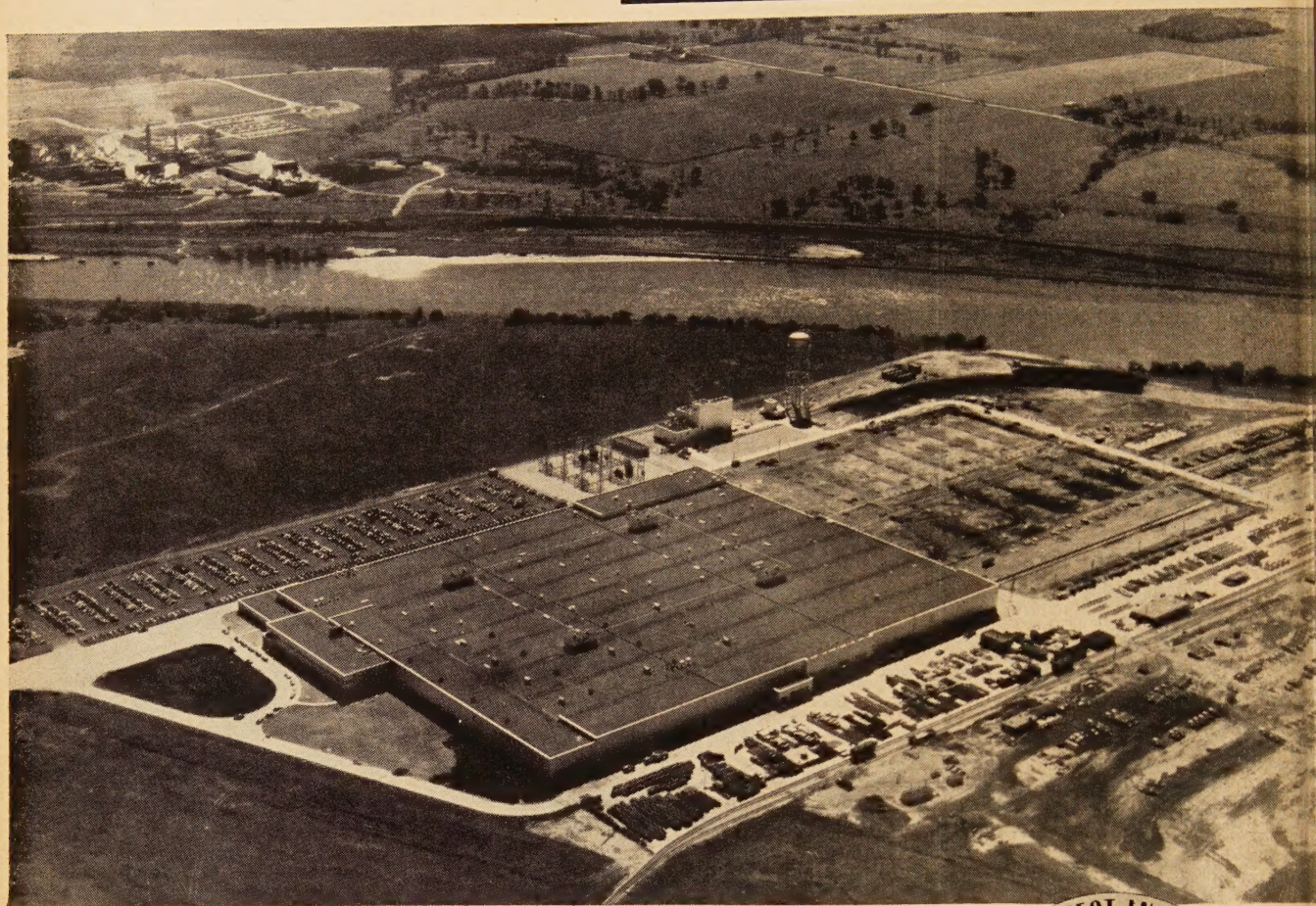
COMMERCE MAGAZINE is privileged this month to present the observations of a statesman whose name is familiar to everyone. Paul-Henri Spaak, former Premier of Belgium, looks at international events, the likelihood of war and the prospects for Western victory as a European living uncomfortably close to the Iron Curtain. His appraisal of Russian intentions and what he believes should be the strategy of the Western world begins on page 13.

The handling of materials has long been regarded as the one area to which industry can best look for savings. Well, the tools are there, if industry will use them. Daniel F. Nicholson reviews the newest of these material handling tools in an article (p. 21) entitled: "Materials Handling: Building Better Mousetraps Is Just A Habit."

If you've been struck by the increasing number of house trailers you've seen on the highways and in roadside parks, there's a simple explanation for the phenomenon. Over 11½ million Americans are now living on these peripatetic "homes," largely as a result of the shortage of stationary homes. That, of course, means a tremendous boom for the manufacturers of house trailers. The story behind the boom is told this month beginning on page 18.

Washington Correspondent Jack Robins reports (p. 23) on the creation of a new defense agency, devoted exclusively to assisting small business.

INDUSTRIAL "ELBOW ROOM"



In addition to room for expansion, employee housing, parking, and recreation, this giant Northern Illinois plant, manufacturing heavy-duty equipment, has excellent rail and water transportation facilities.

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But equally important to all manufacturing plants locating in this area is the room for expansion—*industrial elbow room*—room for later development.

Add to these natural advantages, the tremendous resources that this area has developed for itself—transportation, marketing, research, education, fine cultural and living facilities—and you have reasons why the Chicago and Northern Illinois area has come to be the greatest industrial center of the United States.



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The Editor's Page

Another "Do Nothing" Congress

THE recently adjourned first session of the Eighty-second Congress rolled up a record volume of economy talk and a record total of spending for a peace-time congress. While thus engaged it took almost no action on the Hoover Commission Report—the one readymade tool it could have employed to pare two to three billion dollars off expenditures.

Early in the session drafts of 20 pieces of legislation, embracing all of the recommendations of the commission which had not previously been enacted by the Eighty-first Congress, were presented to the Eighty-second. This legislation was introduced in both houses under bipartisan sponsorship.

Thereafter it languished. Some of the bills failed even to get out of committee, despite the fact that they had the oral endorsement of an overwhelming majority of both Republican and Democratic congressmen and almost universal public support. This record of the Eighty-second is so bad it speaks for itself. Criticism would be redundant.

Fortunately the bills are still pending and can be taken up at the second session which reconvenes in January. On the basis of the record, however, a great deal more pressure from tax weary constituents is going to be necessary to get action. A good beginning can be made between now and the new year when most of the legislators will be "at home" where they should be much more responsive to public sentiment than while they are resident in spending fevered Washington.

Occupying Glass Houses

FOR almost 20 years we have been hearing from Washington about selfish interests, special interests, etc., etc. Labor leaders have been bandying similar charges about for generations. When these "interests" were identified, of course, they were invariably a part of business.

Now, at long last, it seems that the campaign has boomeranged. The Psychological Corporation in one of its periodic surveys of public opinion has discovered that the public actually believes union leaders and government officials are the nation's most selfish groups and that business runs a poor third in this "unpopularity" contest. In the survey, 5,000 men and women, representing all income levels, were interviewed and asked "Which one of these is the most selfish group today: businessmen, union leaders, farmers, government officials, or others?"

Of the 5,000 adults, 27 per cent named union leaders as the most selfish group. Government officials

were named by 11 per cent and farmers by five per cent. Twenty-nine per cent of those questioned replied "don't know." The remainder mentioned other groups or said "all of them."

In the lower income groups representing about 60 per cent of the population, four times as many named union leaders and government officials as named business leaders the most selfish group.

Two years ago, when this question was asked, 42 per cent named unions as the most selfish. Businessmen also fared better, from 17 per cent in 1949 to 11 per cent today. Government officials, however, have lost esteem. Their rating as the most selfish group by 25 per cent in the present survey compared with 19 per cent two years ago.

It is too much to hope, of course, that the "government officials" and "labor leaders" will take a look in the mirror and mend their ways. But business can take a great deal of satisfaction from the improved state of its own public relations.

The Deluge

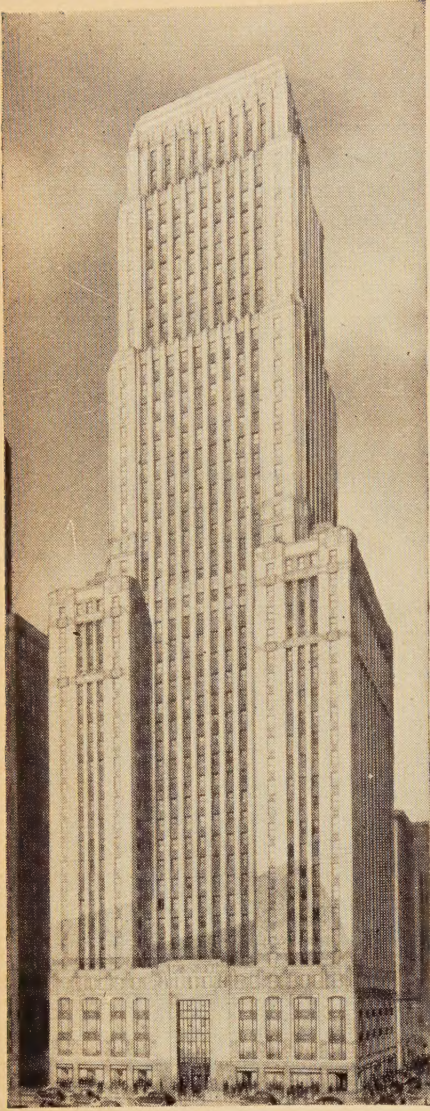
DURING a recent week the Federal Register listed exactly 114 new or revised National Defense Regulations governing the management of industry—in some cases, a whole industry and in others, just one company in an industry. It was a rather typical week for in other seven-day periods Washington has tossed off as many as 125 new orders, each one vitally affecting 10 or 10,000 operating businessmen throughout the country.

The week we poked into the Register, the OPS had hatched about 60 new orders, of which about half a dozen overrode earlier orders, which—for all we know—may have overridden orders issued even before that. NPA was in second place with 45 new orders, and, here again, it was a case of revoking or amending a number of instructions which Washington had earlier issued to business.

We learned one more thing from our investigation: almost everyone can be affected by a week's output of Washington ukases. "Resellers for Houbigant #242 Cheramy Skin Balm, 16 oz.," were handed a general ceiling price regulation. The Panama Canal Zone was exempted from General Wage Regulation 16A of the Wage Stabilization Board. "Certain Physicians and Attorneys" were exempted from salary stabilization under the Salary Stabilization Board's "Interpretation I." And so on went the list.

In the face of such a pace, doctors may soon be diagnosing a new occupational ailment among businessmen. Regulationitis.

Alan Sturdy



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HERE-THERE and EVERYWHERE

• **Move Over, Bub!**—If you've got that crowded, hemmed-in feeling these days, if the buses and restaurants seem overpopulated—well, there's an explanation for it all. There's just more of us today—from Peoria to Pakistan—than ever before. Rand McNally editors, who have put together a new "Cosmopolitan World Atlas," figure the world now supports some 2,400,000,000 human beings—against 2,200,000,000 in 1939 and a piddling 1,600,000,000 back in 1900. In the old controversy between New York and London, the World Atlas editors give the nod to the five-borough "City of New York," whose 7,850,000 people, make it the world's largest metropolis.

• **Powerful Self-Starter**—A jet-plane self-starter the size of an office typewriter but packing a 380-horsepower punch—enough to "outpull" two Cadillac cars—has been developed by Bendix Aviation Corporation. The 75-pound starter will bring a powerful jet engine to starting speed in $3\frac{1}{2}$ seconds, according to Bendix engineers. Then, it automatically cuts out and the engine is idling in approximately 10 seconds.

• **Robot Sailor!**—A Minneapolis-Honeywell Regulator Company executive forecasts that American merchant ships will be robot-controlled within the next 10 years. He told the American Merchant Marine Convention last month that even today it would be possible, under ideal conditions, to sail a ship from port to port under almost full robot control. One crew member—with the help of automatic boiler and propulsion machinery controls—could supervise a ship's entire voyage.

• **Waste Recovery**—Through the use of a "re-refining" process, the

air force succeeded in recovering about a million gallons of used aircraft engine oil during the past year. The Air Material Command Supply Division reports that "re-refining" has saved so much in money and materials that it plans to utilize the process in recovering used oil from ground equipment. The process is comparable to that of conventional crude oil refining.

• **Road Building**—Total highway disbursements by all units of government in continental U.S. last year are estimated at \$4,582,000,000 by the Bureau of Public Roads. During 1949, the highway outlay was estimated to amount to \$4,182,000,000. State highway outlays last year accounted for \$1,553,000,000 of the total capital expenditures for highways.

• **Fire Toll**—Remington Rand reports that fires in retail stores throughout the country are increasing at an alarming rate with a steadily higher damage toll. Last year, 16 retail store conflagrations caused damages estimated at a quarter of a million dollars or more. All told, the annual fire damage to retail stores is roughly \$53,000,000. Remington Rand finds that 41 percent of such fires break out during working hours, with the result that unprotected records are also lost.

• **Snow Melter**—Got "snow" on your television screen? If so, the Naval Research Laboratory in Washington has been working on a project that may eliminate it. According to a report presented before last month's National Electronics Conference in Chicago, the "snow" is static which also appears as "noise" in radios and "grass" on radar screens. Unwanted electronic disturbances in detectors is one cause

(Continued on page 39)

Be Wise

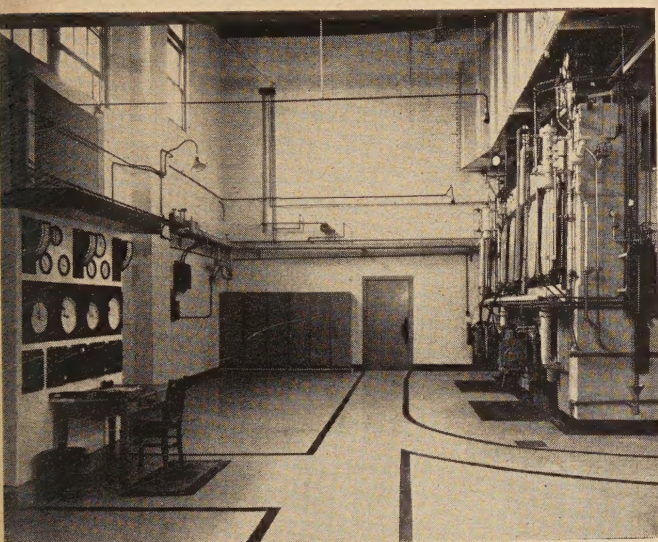


IRON FIREMAN-IZE

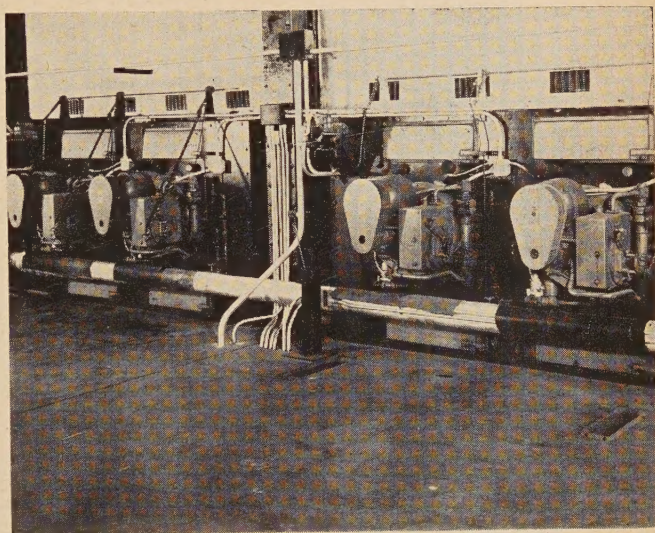
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Trends in FINANCE and BUSINESS

Oil Industry Meets Fast Rising Demand

"The biggest single factor that the oil industry can report is that it has successfully kept pace with a 22 per cent increase in demand occurring in the United States during the past two years. So reported President Sidney A. Swensrud of Gulf Oil Corporation upon the occasion of Oil Progress Week.

The oil industry executive explained that in physical terms this means the nation's daily consumption is now about 1,300,000 more barrels of petroleum products than it was two years ago. "The increase, alone, represents a volume of products equal to all the oil consumed in Western Europe with its 280,000,000 people," he added. "In short, the past two years have laid upon the oil industry of the United States the necessity of building new facilities of a capacity equal to all needed for Western Europe."

Mr. Swensrud outlined the industry's vast expansion program in these words: "During the five years from 1946 through 1950 the industry spent over \$10½ billion, plus about \$2 billion more in foreign investments. Two or three billion more will be spent this year. All this is for finding, developing and producing increased quantities of crude oil, and creating the necessary transportation, manufacturing and distributing facilities."

See 1951 Capital Outlays At \$25.5 Billion

American industry may reach \$25.5 billion this year. If so, they will exceed industry estimates made late last year by about \$3.6 billion.

"The biggest single factor that the oil industry can report is that it has successfully

The conference board's conditional forecast is based on two government estimates which place capital expenditures during the first three quarters of 1951 at nearly \$18 billion—or about as much as industry spent for this purpose during all of 1949. Although the board points out that specific fourth quarter capital expenditure estimates have not been made, it does note that first estimates of the fourth quarter in the past have been remarkably close to first estimates of the third quarter. Furthermore, actual expenditures for the fourth quarter have averaged about 16 per cent above the first estimates for 1946-1950. Thus, the forecast that total capital expenditures in 1951 may exceed \$25 billion.

The conference board makes the further observation that most of the current expansion can be utilized for peacetime as well as wartime use. It adds, however, that two shortages are now beginning to slow up capital goods output and consequently rearmament. The first is the shortage of engineers, designers and draftsmen, the second bottleneck is the small rise in machine-tool shipments relative to new orders.

« » « »

Dividends

**Continue Nine-
Year Rise**

Dividend payments climbed to another new high record in the first nine months of this year despite larger corporate income taxes, the New York Stock Exchange reports. It adds that for the ninth successive year nine months' dividends were larger than in the preceding year.

Taxes, however, did reduce the rate of gain in dividends during the nine-month period as compared

(Continued on page 38)

Do Steam Costs Favor

REFINED

COAL?

Call a Specialist!

The performance of this refined coal is likely to overshadow the fact that it is still a low cost steam plant fuel. Particularly so when you consider how it has stretched the time between boiler outage—eliminated standby boilers—eased manpower problems—smoothed plant operation in still other ways. Yet the very fact that SP coal has such a record and remains the one choice of a long list of boiler rooms—is proof in *itself* of a low cost.

By the same token, you may find it profitably worthwhile to center upon SP coal for your specific need. Peabody engineers stand ready wherever required to aid in its most efficient utilization.

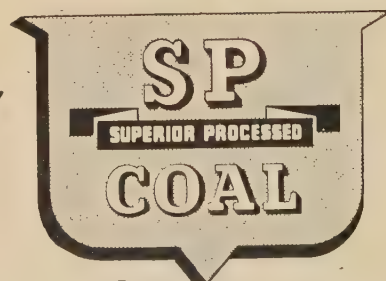
SP coal is shaft and slope mined from 5th and 6th veins, Southern Illinois and 6th vein, Central Illinois District. Dedusted, re-fined, washed, laboratory check-tested.

**PEABODY
COAL COMPANY**

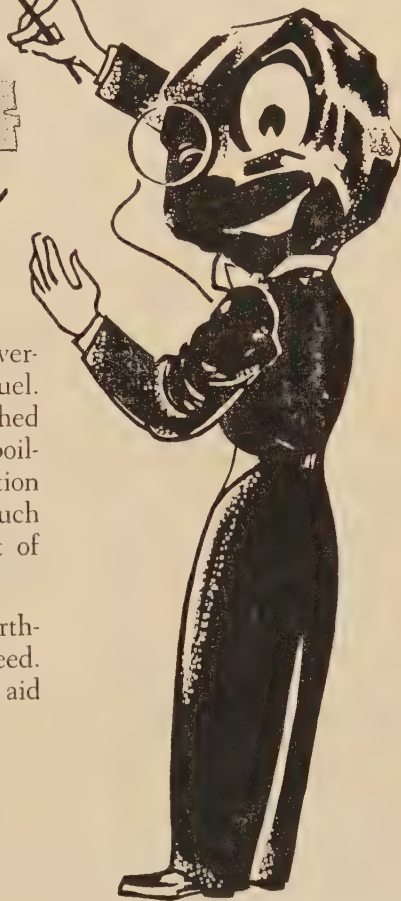
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A Program For Western Victory

By PAUL-HENRI SPAAK

President, Consultative Assembly, Council of Europe and Former Premier of Belgium

A World-Respected Statesman Presents A Critical Appraisal Of
Global Events As Seen By Those Who Live Next Door To Russia

DO THEY believe in Europe that war is coming? Vast spheres of the population do not try to give a definite answer to that terrible question. Indeed, one cannot deny the existence of a somewhat fatalistic trend in Europe.

The 1914 war ended in a great delusion. The majority of the populations of Europe thought sincerely that that war was going to be the last war. The between-two-wars period was one long disillusion which saw the hope of a lasting peace dwindle away, little by little.

The Second World War was for Continental Europe a dreadful material trial. It was an even greater moral one, marked by the failure of all political systems, the collapse of values which were thought to be the safest, an upheaval as violent as the one which occurred at the time of the French Revolution.

Obviously Europe has not yet recovered from that terrible shock and the European populations have not yet really lifted up their heads to face the future, a future which they fear. Now they feel themselves directly threatened by Communism, the negation of every value Western civilization has endeavored to up-

hold throughout the struggles which lasted for centuries; they also feel threatened by a conflict between U.S.S.R. and the United States.

Lastly, they know that in the present state of affairs they are hardly able to face the problems which confront them, crushed as they are by the mortgage of an incomplete reconstruction, financial difficulties and, let me add, by the economic absurdities, the national prejudices and selfishnesses which have as yet prevented them from joining their forces and rationalizing their efforts.

Detached Viewpoint

From these very candid explanations one should not draw the conclusion that the European populations give way to despair and no longer work. Nothing could be farther from the truth.

They are more impervious to international events than the people of the United States. The Korean War, the talks at Kaesong, the San Francisco meeting, the discussions about Abadan do not preoccupy them greatly. They feel more and more strongly that these are situations over the evolution of which they are practically without control. Therefore they do not worry much about them but go on working without letting anything distract them from their tasks.

The state of mind of the great bulk of the European populations being such, what might be the thoughts of those who give more special consideration to these problems? I believe that the fear of an immediate war is far less great today than it was one or two years ago.

The reasoning of many people is simple though not over-simple. They say: If the Russians wanted, or were in a position to start, a third world war why didn't they take the opportunity they had when Europe was entirely unarmed, utterly disrupted militarily and when the United States was still living in a world of delusions and dreams which were prevailing immediately after the war?

To me their reaction does not appear false. I feel that the observer of international politics must indeed ask himself the question: "Why didn't Russia wage war either in 1949 or in 1950?"

It seems to me that we may grant that Russia has no economic reason to wage war. She owns an immense territory, the most abundant and various resources, numerous satellites, a population that lives under conditions far inferior to those we know in the West. Therefore, she has ahead of her a tremendous task on which, if she wants to, she can

← German workmen rebuilding smart retail shops on Berlin's "Kurfurstendamm." The "Fifth Avenue of Berlin" was reduced to rubble during the wartime bombings.

Acme photo

concentrate all her energies for a very long time.

Thus, if the men in the Kremlin wanted to wage war their motives could not be of the economic order. They would have to obey motives of another order, solely political motives, the main objective of which would be to bring the whole world under submission of the Communist regime.

Supposing for a moment that such is their state of mind. We must then ask ourselves where is for them the key of the situation. What must they do to succeed? To me, there is no doubt as to the answer: they must have victory, total victory in a war against the United States. The utter destruction of American might is the necessary condition for realizing that policy.

This first conclusion enables us to observe how far we are from the problem set by the two last world wars; to see the shifting in objectives which has occurred. For instance, how much the German-French rivalry, a question of such magnitude during the last seventy-five years, has become secondary today. What a lesson for Europe! This time the problem has changed for the good.

Russia's Basic Goal

Of course, in 1949 or 1950 the Russians could have invaded Europe to occupy and dominate her as Hitler did. Perhaps they might even do it today. In my opinion they won't attempt it. For to reach the great goal towards which they aim, it is not essential for them to be in Paris, Rome, or even London, if these first successes were to drag them inevitably into a war with the United States, a war in which they are by no means certain to come out victorious.

The Russians know that if they leave six months, a year, to the United States in which to plan and then carry through their apparatus of production, they must be crushed by an effort to which no one in the whole world can oppose anything similar or even comparable.

We must therefore congratulate ourselves that the Russians—carried away by the logic of a policy which I shall attempt to explain later—have made a certain number of mistakes, have indulged in characterized provocations which forced the United States to abandon her pas-



Acme photo

Paul-Henri Spaak . . . "the fear of an immediate war is far less great than it was a year ago."

sive position, start her effort to rearm, and proceed with a positive policy in the world.

To estimate the likelihood of war, I believe that there is another essential factor which we must not overlook and to which we may not have given due consideration. We must never forget that the Russian leaders are Communists, and that one of their strongest doctrinal convictions is their absolute belief in the inevitable decline of capitalism; in other words, their absolute conviction that their enemies are doomed to self-destruction, unremittingly and finally.

The "Disunity" Plan

A whole political strategy must necessarily proceed from this creed. The leaders in the Kremlin feel no impatience. For them the problem which has to be settled is not the problem of one generation but a much wider problem of history.

Since capitalism and democracy constitute the condemned regimes which are bound to collapse, the question for the Russians is not to risk a war that might be fatal to Communism if it were to be started too soon, the adversary being still powerful. It is far more to accelerate

as much as they can and by every possible means the growing disunity they think they have detected among their enemies.

Do we not find in Russia's policy of these last few years the glaring confirmation of that theory? Wherever there is a situation to exploit, a wound to envenom, some trouble to start, some difficulties to create we find the Russians in action. But they step back, whenever they feel they have reaped from a situation all they could expect from it for their long-dated policy, and when they feel that, by continuing their efforts, they might bring on war.

Is it not what they did in Greece, in Berlin? Is it not what they are doing in Asia and especially in Korea? Was it not what they attempted in France, in Germany, in Italy, and in Indonesia with more or less success? I think the rather theoretical diagnosis I venture to make is amply confirmed by facts.

Western Strategy

How must we oppose that strategy?

Our main objective must be to demonstrate to the Russians that they are mistaken, that it is not true that the Western World is doomed to inevitable decline. We must show them that we are capable of solving—and solving better than they can—the economic, social and military problems brought about by our times. In that defense which is common to both Europe and the United States, the United States plays the leading part. I say that not to be pleasant but because it is the truth. Americans represent only 7 per cent of the world's population, yet they own 42 per cent of the world's income. This is a situation which confers on them certain rights. But in times like ours, when the fate of a civilization, a way of life and thought is at stake, it implies even greater responsibilities.

On the whole, I think that you are aware of it. And one may say that the immense effort you have made and are still making both to rearm and to promote the economic and military restoration of the world bears evidence thereof. But your effort, the difficulties it has to cope with, the problems it sets, the results already obtained and those yet to be obtained are subjects I should not deal with; they belong to you.

What I want to stress, however,

SPEECH OF THE MONTH

Made before National Industrial Conference Board, September 27, 1951

is how useful it would be for you to find in Europe a powerful ally, able to help you efficaciously, able to do her part in the fight. I confess it bluntly and with some shame: such is not the case today. In this immense problem of Western defense, Europe is something of a dead weight that has to be dragged along. This confession is all the more painful because I feel everything could be quite different with only a little more courage, a little more audacity on our part.

On July 3rd last, General Eisenhower delivered in London an admirable address on this subject which placed him in the first rank among the truly clear-sighted statesmen. As an impartial observer, who is in a good position to judge our problems, he entreated us to organize ourselves on a new basis. He urged us to unite, believing that it was the only way for us to give to our resources, which are immense, their full efficacy; that it was the only way for us to solve our difficulties.

Europe's Problems

Western Europe counts 290 million inhabitants on a wide expanse of territory which stretches itself from Stockholm to Ankara. It controls immense territories in Africa, owns a great deal of raw material, has daring businessmen and chiefs of industry, skillful and hard-working workers—in one word, a tremendous potential of riches, not so very inferior to those of the United States.

It is unthinkable that national selfishness and outdated prejudices should hamper the exploitation of such wealth. Yet what could be a formidable and productive strength is still nothing but a rather chaotic agglomerate which has constantly to be helped.

In 1950, Mr. Paul G. Hoffman, former administrator of the E.C.A., said in a speech that, if the individual's average production were the same in Western Europe as in the United States, the total amount of production could climb from 160 billion dollars a year to 470 billion. This difference of 310 billion dollars, or conservatively half of it represents what we pay for our political divisions, our so-called independence and national sovereignty. It also represents the price being

(Continued on page 30)



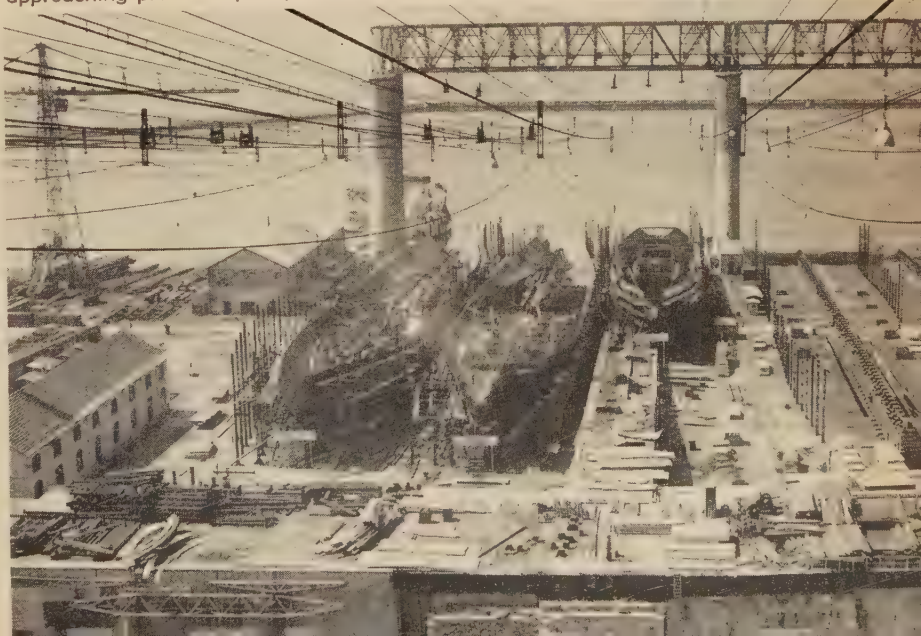
Acme photo

Industrious Berliners now cultivate tiny vegetable gardens in the Tiergarten within the shadows of Germany's Victory Monument, as food demands increase.



Rebuilding moves slowly forward in St. Vith, Belgium, worst-hit town in the Battle of the Bulge. Photo shows construction activities on Main Street.

Despite material shortages and trade restrictions, Italy's shipbuilding industry is rapidly approaching prewar capacity. This is the Ansaldo Works in Genoa.



Statistical quality control is like shooting craps, except that you

For Better Quality



"SQC" is based on the same laws of chance that tell you the odds against rolling a three (left) are 215 to 1. The 9 (right) appears on average 25 out of 216 times.

WHAT IS STATISTICAL QUALITY CONTROL?

Statistical quality control is based on age-old laws of chance. The same laws that tell you that if you flip a coin a thousand times the chances are that heads will appear about half the time, that if you roll three dice you will wind up most frequently with a 10 or 11, the least frequently with a three or 18. If, for example, you roll a three more frequently than a 10, you're probably playing with "loaded dice," because no one has yet defied the laws of probability. Replace the "loaded dice" with honest dice and your throws will return to a pattern governed wholly by chance.

Statistical quality control applies this principle in industry. No two parts that a machine produces are exactly identical — each one will vary minutely from the next. If the machine is operating properly, probability dictates that 50 parts which it turns out consecutively will vary around a norm — about half to one side of the norm and half to the other side of the norm, but all within the required specifications.

Suppose, however, that the 51st part varies just a trifle further, one way or the other from norm. The

54th part varies still further from norm, but still within the specification limits.

Here you have a trend, which is the basis of statistical quality control. It warns you — in advance — that trouble is brewing and that by the 63rd or 69th part (the expert's quality control tools help forecast the exact number), the machine will be turning out parts that exceed specifications.

By charting a machine's performance — or, for that matter, the performance of an order filler, a machine tabulator or a thousand other variables — a statistical quality control analyst attempts to predict errors in production before they occur. Thus he can prevent scrap and rejects before they come off a machine. Inspection, on the other hand, does not catch up with trouble until it has occurred and the rejects have been produced.

Professor Mason E. Wescott of Northwestern University, an authority on statistical quality control, explains the technique this way: "The key to the whole system resides in the fact that there is inherent variation in every repetitive activity from a game of craps to penicillin production."

S TATISTICAL quality control has been under close study at International Harvester for over a decade and today it can be found in practical, day-to-day operation in every one of our manufacturing plants. Furthermore, we have carefully devised yardsticks by which to measure the dollars-and-cents savings it has produced for us.

Every divisional controller now works out a formula designed to indicate how much we are saving in scrap, rework and inspection. These calculations show, for example, that in the first nine months of 1951 Harvester saved over \$2,000,000, compared with the same 1950 period. This return certainly suggests the potentialities of quality control programs. Though we make no attempt to show exactly how much of this improvement is directly attributable to quality control, we believe it is the major contributing factor. Thus, our enthusiasm for the technique.

Inspection Tool

Statistical quality control, as those familiar with such programs know, earns its bread and butter in the field of inspection. This kind of quality control is generally associated with machine shops. But quality control is now much more than an inspection tool. In many places in the Harvester Company it is applied outside the machine shop, and it is in these unlikely places that quality control is producing, not bread-and-butter dividends, but virtual windfalls.

Let me explain how quality control got outside the machine shop in the first place. Statistical quality control was initially so successful in the machine shop that other

ALWAYS win .

Play The Odds!

By

GEN. LEVIN H. CAMPBELL, Jr.

Executive Vice President, International Harvester Company

plant people began calling for the quality control engineer when they ran into trouble. By now, most Harvester plants have what we call a "quality control action committee" composed of key plant men who can get things done if they know what has to be done. A committee may be composed of the plant mechanical engineer, a division superintendent, the general foreman from the affected department, the metallurgist, and others. A team like this gets at the facts as the first step in the solution of a problem.

Here's how the policy works out. In one of our plants, where we paint a product by tank dipping, the painting job was unsatisfactory and rather costly rework was required. A quality control analyst was asked to examine the job.

Among other things, statistical quality control charts were kept on the viscosity of the paint found to be "out of control." It was found

"The fallacy of 10% inspection." If extreme right row of paddle (i.e. 10%) were inspected, the left batch (2% bad) is rejected, the right (8% bad) is passed!

that this condition was caused primarily by insufficient agitation of the paint. When air agitation was introduced, the viscosity came "under control."

But the story doesn't end there. Further examination revealed the viscosity to be higher when "under

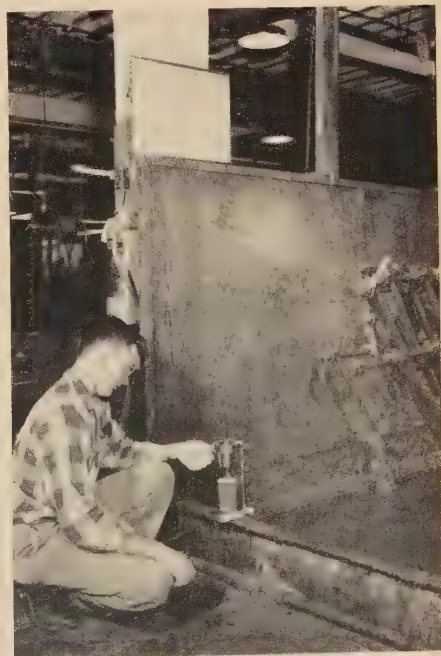
control" than required for a good paint job, and a lower viscosity level was established.

Thus, we went looking for one dividend and found three! The

(Continued on page 50)



International Harvester Company inspector checks mold hardness as part of statistical quality control procedure at company's Indianapolis Foundry.



Checking paint viscosity at I.H. Rock Falls Works. Note SQC chart above worker.



The lavishness of new trailer parks (left) is matched by smartly-designed trailer interiors (right). In foreground is trailer living room complete with television set, modern furniture and space heater. To the rear is kitchen, bath and bedroom.

THE TRAILER MAKERS

—they've put wheels on the family homestead!

A billion-dollar "war baby" industry is a bit skittish at its own immensity

THE first rule of the road for the man who carries his homestead hitched to the rear of his automobile is "Drive Slowly." Otherwise, if he is speeding and must stop suddenly, he may find the contents of his house trailer—including the custom-built refrigerator, kitchen table and twin beds—heaped untidily in his trailer living room. Today, more than one manufacturer of house trailers is wondering if his industry may have overlooked the safety precaution it has drilled into its customers.

Few other American enterprises have roared out of nowhere with the headlong speed of the house trailer industry. Two decades ago, the house trailer business (or as the industry prefers to be known, the "trailer coach" business) was nonexistent—except in the sense that a custom builder now and then put a trailer together for a vacationing sportsman. Today, trailer manufacturing and servicing, plus the oper-

ation of trailer camps, is a billion dollar industry. It has given birth to a community of "mobile families," who, if gathered in one "Trailer City," would comprise the nation's sixth largest metropolis—a shade behind Detroit and a long jump ahead of Baltimore.

500,000 Trailers in Use

Census takers last year counted more than 500,000 house trailers on the highways or in residence at the nation's 9000-odd trailer villages. Since each houses an estimated three-and-a-fraction persons (one out of three "mobile families" have mobile children), this works out to more than a million and a half Americans living in "homes on wheels." They are a surprisingly prosperous clan, having an average annual income last year of \$4,450

By LEWIS A. RILEY

against a national level of only \$3,313.

In view of this spectacular growth, one might assume that trailer makers are busy these days hatching plans whereby they may double or triple their production as quickly as possible. Indeed they might be, were it not for the fact that the trailer industry has waxed prosperous during a time when a great many people had either to live in trailers or in the dingiest excuses for emergency housing.

If a chart covering the last decade were drawn with one line indicating house trailer sales and a second line indicating the seriousness of the nation's housing shortage, the lines would be strikingly parallel. The economic facts of life are obvious to every trailer maker. The industry has been building stop-gap



trailer "parking space" in the best Florida and California parks, like those shown above, rents for about \$35 a month, but elsewhere throughout the nation, space rentals in the 9000-odd trailer camps average around \$15 to \$25 a month.

emergency housing and every manufacturer realizes it—with varying degrees of apprehension over the long-term soundness of his business.

One of the industry's best prewar years was 1937, when an estimated 17 million worth of trailers were purchased by vacationists (who bought \$8.5 million of the total), by retired folks (\$5.9 million), and by families whose breadwinners were in "mobile occupations" (\$2.5 million). By 1945, after a steady wartime climb, trailer sales still amounted to only \$39 million, but that was the calm before the storm.

In 1946, sales shot up to \$114 million; then, as the housing shortage worsened, to \$204 million in 1948. At that point, the industry caught

its breath long enough to appraise the market. It was not encouraging. The demand for emergency housing had largely been met, and, when sales dipped to \$112 million in 1949, no one in industry was taken by surprise.

Emergency Housing

Then, in 1950, the industry was handed a brand new emergency. With defense workers and military personnel pouring into housing-short communities, the demand for "mobile housing" exploded all over again. Trailer sales soared to \$216 million in 1950 and in the first half of this year reached a record-breaking annual level of \$234 million—17 times the prewar peak! Today

over 90 per cent of all trailers built are going to defense workers and military families who need temporary housing. Two huge government financed parks are already housing thousands of trailer families at the Atomic Energy Commission's new plants at Aiken, S. C., and Paducah, Ky., and more thousands of military families occupy government-built trailer parks on scores of army and navy bases.

Thus, the trailer industry finds itself in the uncomfortable position of a "war baby" that someday (just when that will be is a thought-provoking question) will run out of emergencies. It is not hard to make pessimistic forecasts. However, the



Emergency trailers now house Kansas City flood victims

Government-built park at Great Lakes Naval Station, Ill.

industry's dominating dream is that when the emergencies have all run their course the trailer makers will have then developed vast peacetime markets, notably among retired couples and those who hanker for the vagabond life. One industry estimate is that "normal" trailer sales will ultimately level off at about \$200 million a year, or about 12 times the prewar peak.

Just how the trailer makers hope to accomplish this goal is one of industry's most arresting stories of intra-trade cooperation, promotion and public relations.

Unity in Industry

For an industry composed almost entirely of small concerns, the trailer coach business has attained a remarkable degree of unity. Virtually all of the 150-odd concerns in the business are either individually-owned companies, partnerships or closed corporations. They were drawn from many fields. One manufacturer formerly made truck bodies, two others produced airplane bodies, several were boat builders, and at least one gave up ladder making to get into trailer building.

The nature of the business is such that no one manufacturer or small group of manufacturers dominates the field. Trailer making, to quote a trade maxim, is "an excellent small business, but a lousy big business." One reason is that the average trailer maker is an assembler, not a manufacturer. He buys component parts, including tailor-made frames, undercarriages, bodies, fixtures and furniture, from among

the industry's 200-odd suppliers, and then simply fits the pieces together. Most suppliers, incidentally, now cater almost exclusively to the trailer market. The furniture suppliers, for example, sell only to trailer makers, while four supplier concerns produce nothing but trailer windows.

More than one auto maker has investigated the possibility of mass-producing house trailers as an adjunct to automobile manufacturing. This had led to a procession of quiet scouting operations in which auto industry representatives have studied the trailer field at length, only to find that it is ill-adapted to mass production. Thus no auto concerns now make trailers. Some years ago, however, one auto man became so impressed with the possibilities he saw in trailer making during a scouting operation that he quit his job and organized a trailer firm of his own. It has prospered ever since.

It would be grossly unfair to the trailer makers to suggest that today's record-breaking trailer population is due entirely to shortages of stationary housing. Despite their ready market, the trailer makers are intensely competitive and since the war they have improved their product immensely. In fact, the 1951 house trailer is hardly to be compared with its midget-sized ancestor of World War II. In 1948, only 17 per cent of the 85,000 trailers built were as long as 27 feet. Last year 65 per cent of the 63,000 trailers produced were 27 feet or longer,

and the trend to longer, roomier trailers has continued this year despite material shortages. Today better than 70 per cent of all trailers are 30 feet or longer, and almost a third are 35 feet and longer.

The lengthening of trailers is only the most obvious improvement. Today's coaches are more efficiently insulated against heat and cold; they have vastly improved appliances, furniture, heating and plumbing, and their interiors reflect the attention of top designers and decorators. About 10 per cent have tubs, and the rest have showers which were first introduced in 1948.

Those who have not looked inside a modern house trailer have a real surprise in store, especially if they are familiar with wartime models. Today's trailers are richly finished with panelled woods, glistering kitchen and bathroom fixtures, and strikingly modern furniture. There is, in fact, a marked similarity between these rambling homes and a smart, though compact, apartment.

Currently, retail prices—which include all furniture and furnishings—range from about \$2,800 for a 25- or 27-foot model to about \$6,000 for a standard 40-foot model. The relatively few 45- and 50-foot models are largely custom-made and carry price tags of \$7,500 or more.

Size Problems

One of the industry's standing challenges is to devise some ingenious method for transplanting a common household convenience into the tight confines of a trailer. It was not until one supplier turned up with a five-gallon electric water heater shortly after the war that manufacturers were able to fit this appliance into their trailers. Another supplier came up with the idea of "picture windows" in trailers, a trick that adds greatly to the feeling of interior spaciousness. He did it by simply turning four standard windows upright in a row, a design feature that has since become more or less standard in all trailers. There is still an excellent market, as one trailer expert puts it, for the man "who builds something that retains its household value, yet fits the space limitations of the trailer coach."

Whether the trailer makers' long

(Continued on page 46)

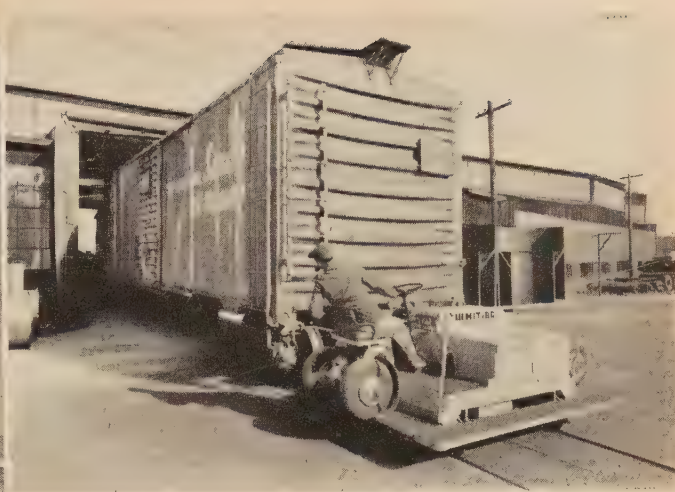


Trailer making is really "trailer assembling"—adding pieces from suppliers

Bob Brandt



This radio-directed truck by Automatic Transportation Company finishes one job, signals control room and speeds on to next



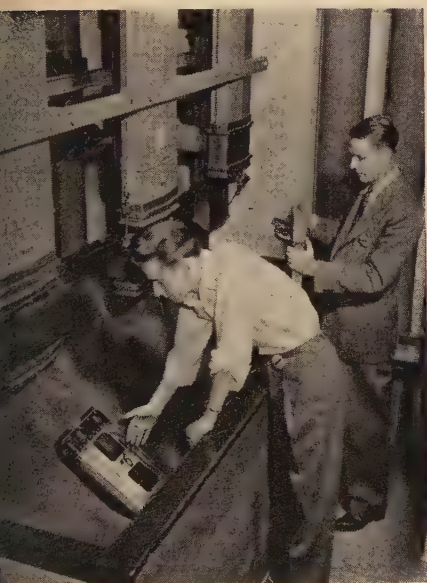
Whiting Corporation's "Trackmobile" has two sets of wheels, travels on ground or tracks while serving as switch engine

Zipper on the conveyor belt; TV cameras on the scrap car . . .

MATERIALS HANDLING — *building better mousetraps is just a habit!*

Here's A Progress Report On The Science That Hatches Money-Saving Shortcuts Every Day

By DANIEL F. NICHOLSON



Lampson Corp. designed this 1 3/4 mile pneumatic tube system to speed blueprints from central station to far departments

F A MODERN Rip Van Winkle should return from a 20-year nap he would be delighted with the changes that have taken place. Rip had an "insuperable aversion to all kinds of profitable labor." He would, therefore, be most appreciative of the fact that machines now do nearly all of the back-breaking work on the farm, and in factory and home.

One change that would impress Rip is the migration of big plants and distribution warehouses away from crowded areas to the outskirts where land is plentiful and engi-

neers can give full play to all the labor saving and time saving devices that can be used when all operations are on one floor.

In addition to seeing television for the first time as a great entertainment medium, the long-absent Rip would see this newest marvel of communications science used to increase industrial efficiency. Radio, with which he already was familiar, would be found performing many useful jobs in industry, and notably in labor-saving applications.

Big Savings Avenue

Economical handling of materials has become one of the great concerns of business and industry, for it is now recognized that in this field some of the largest savings in production and distribution costs can be made.

The ingenuity of the engineers specializing in materials handling is producing amazing results, and

almost every new advance in science is soon adapted in some way to cutting the cost of moving goods, whether in the raw materials stage, within a plant, or in the hands of the ultimate seller.

The potentialities of television as a means for safe observation of dangerous processes or the inner workings of machinery have been widely discussed, but it is now also being used for more prosaic purposes. At the Fisher Body Company's plant in Pittsburgh the handling of scrap metal is expedited with the aid of television. The scrap is bundled into bales and carried by a conveyor to a chute which drops it into a gondola car. The operator of the bundling machine has a constant view of the car in a television screen, and he can operate an automatic car puller to move it from time to time for uniformity in loading. A coal company has a television camera rigged up so that an

operator some distance away can detect any piling up of coal as it is chuted into a washer.

Radio has many applications in materials handling, and everyone is well aware that it is being used effectively in railroad freight yards to direct locomotive crews. But now radio is being used on the little one-man trucks that perform remarkable feats of lifting and moving materials inside factories as well as outside in materials yards. Many well known companies are using this type of communications system, including Caterpillar Tractor, Thompson Products, Eastman Kodak, Timken Roller Bearing, and Johnson and Johnson. They report an increase in the mobility and efficiency of their radio equipped fork trucks. The truck operators when confronted with a problem can get an immediate answer from the central dispatcher. The dispatcher can direct them immediately to any point in the plant where they are needed. Paper work is often saved because operators can be given verbal instructions rather than written ones.

Tubes and Zippers

Another relatively new development in materials handling is the zipper belt conveyor. This device is a moving belt that becomes a tightly sealed tube when the zipper is closed. It is especially useful in handling bulk items, powders, and goods requiring protection from contamination.

A large plant on the West Coast speeds up deliveries of blueprints,

messages, scheduling tickets, small parts, small tools, and so on, by the use of pneumatic tubes. The special tubing for blueprints is 1½ miles long, and because of the great speed with which requests are handled, only two copies of a given print are now needed as compared with as many as 15 previously.

Flexible Forks

New devices, improvements of old ones, increased flexibility of such basic equipment as the fork lift truck by fitting it with attachments, and an increasing trend toward standardization of certain types of equipment, are giving the materials handling engineer constantly better tools to work with. There are mechanized pallet loaders, for example, which not only save labor and speed up loading but reduce breakage. Conveyor systems have been developed to the point where an operator at a central control board can select the materials he wants to load and determine just where each load is to be delivered.

The standardization of basic equipment and use of attachments instead of having a different machine for each operation suggests important economies. Clark Equipment Company, for example, offers a lift truck that can perform not only with the familiar fork lift but with a shovel, clamps, ram, crane, or a rotating device. Lift Trucks, Inc., has standardized an electric truck so that by simply changing a part in the driving mechanism the range of lifting power is increased substantially. The Baker Industrial

Truck Division of Baker-Rauland Company has a new four-purpose carriage which combines, in one unit, standard forks, side shifter, fork spacer, and clamp. The unit is changed by repositioning one pin.

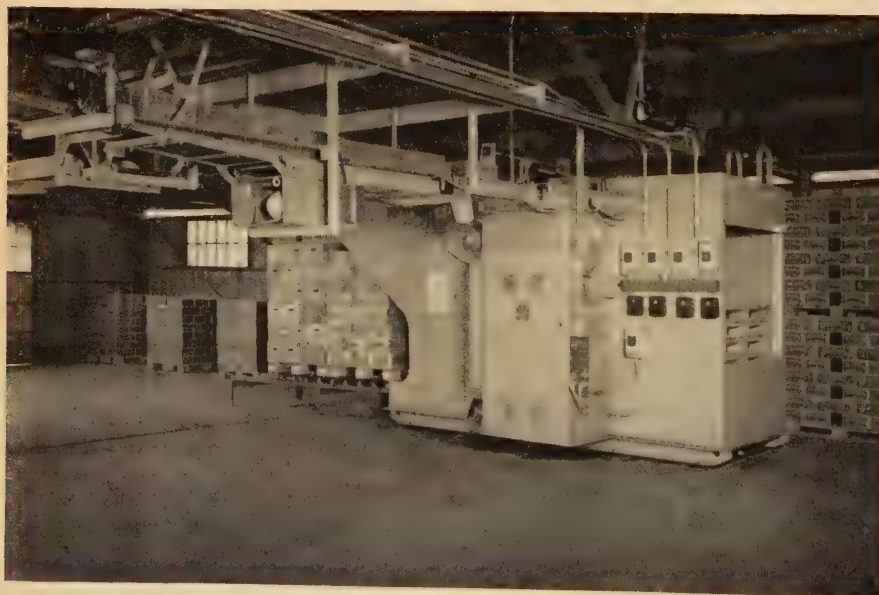
Yale and Towne Manufacturing Company has introduced a new diesel powered lift truck with hydraulic transmission. The truck is designed primarily for heavy duty outdoors work where the fluid coupling eliminates stalling, chattering and damaging starts and stops, and assures the availability of full engine power for heavy pulling and steep ramp work. The prototype of the truck was designed for the U. S. Navy for use in closed-compartment operations. The fumes of the diesel engine, while nauseous, are less dangerous than gasoline exhaust fumes, the company explains. The diesel engine with its less volatile and flammable fuel is suitable for many industrial uses where gasoline vehicles are prohibited because of fire hazard, the company adds.

Yale and Towne also announced recently a new lift truck accessory in the form of an automatic clamp that grips both the top and bottom of crated products and tiers them without pallets at heights up to 17 feet.

Double Duty Unit

A new piece of equipment that has focused attention on the importance of giving greater attention to economies in the yard handling of materials is the "Trackmobile" manufactured by the Whitcomb Corporation. The Trackmobile is a unique machine for moving freight cars. It has two sets of wheels and can travel either on the ground or on railroad tracks. One set of rubber tired wheels can be retracted, whereupon the machine rests on four steel track wheels set at right angles to the rubber tired wheels. Thus the Trackmobile can move quickly to any point in the yard to get at loaded or unloaded freight cars and position them wherever they are wanted. In short, it performs the work of a switching locomotive, but with far greater flexibility.

Many plants have mechanized their materials handling to a high degree, but even in some of these it has been possible to achieve large



Lampson's Automatic Pallet Loader handles 55-gal. drums, bags, and pallets.

(Continued on page 26)



The new Small Defense Plants Administration will help small firms acquire prime defense contracts as well as subcontracts.

New Voice For Small Business

AT LAST, A TOP-LEVEL DEFENSE AGENCY JUST FOR SMALL FIRMS!

By JACK ROBINS

WHEN an unexpected shortage showed up in aluminum production last summer, and then grew more serious because of a 20 per cent reduction in output caused by the lack of sufficient power in the Pacific Northwest, the first impulse of the National Production Authority was to issue an order to ban unessential uses of aluminum.

The order, however, never became effective. NPA had sought to act too fast, and without examining all the angles. An order completely banning the use of the metal for officially-designated "non-essential" purposes would mean that whole sections of the fabricating industry, such as the making of aluminum venetian blinds and window sash, would be put out of existence. Taken together, their total use of the aluminum supply did not amount to more than five to seven per cent. Were the demands of mobilization so great that such a price had to be paid for such a relatively small degree of conservation?

Congress thought not. Its small

business committees in Senate and House brought pressure which prevented the proposal from becoming effective. The incident served also to point up a feeling in Congress that despite constant emphasis on the need for utilizing small business in defense production, the executive agencies were not paying sufficient attention to the problem.

Born in Senate

A group of senators headed by John Sparkman of Alabama, outlining the situation in a letter to Chairman Burnet Maybank of the Senate Banking and Currency committee, argued that "a mere small business executive committee in the Defense Production Administration cannot effectively combat the compulsion (in the government) to do business with big business. A single order, M-7, of the NPA was a potential death warrant for some 10,000 of the 14,000 small aluminum fabricators of the nation."

It was natural enough, the senators maintained, for a procurement officer to want to speed up the placing of orders by dealing with one company instead of 10. It was also natural that in staffing his agency he would have a tendency to turn to big business, to the companies rich in personnel and know-how. But however natural these impulses were, they were undesirable from the standpoint of a healthy national economy.

On this reasoning, when Congress extended the Defense Production Act late in June, it wrote in an amendment creating a new independent agency devoted specifically to the job of helping small business, to be known as the Small Defense Plants Administration. After some delay, President Truman nominated Telford Taylor to be its first administrator, and in due time the SDPA is expected to be set up for business.

Taylor, who was chosen for the job in preference to several political candidates, including former Senator Scott W. Lucas of Illinois,

is a 44-year-old New York lawyer who got to know Senator Harry Truman of Missouri in the 1930's when he served as one of the counsel for the Senate Interstate Commerce committee of which Truman was a member. A graduate of Williams and of Harvard Law School, Taylor had started working for the government in 1932 as a lawyer in Agriculture's AAA; later he became a special assistant to the Attorney General, and then general counsel to the Federal Communications Commission. Serving in the army during the war, he rose to brigadier general and was chief prosecutor at the second Nuremberg war crimes trial.

Organization Set-Up

In its legislative concept, his agency, SDPA, is patterned closely after the Smaller War Plants Corporation of World War II, which was headed by Maury Maverick of Texas. The 56 senators who jointly sponsored the SDPA amendment to the production act dug into the history of that corporation before they drafted it. They learned that the old SWPC had hung up these accomplishments:

Nearly 60,000 prime contracts with a value of almost \$6 billion were awarded to "small" manufacturing plants (those employing less than 500 workers) with the assist-

ance of Maverick's agency. It arranged 40,012 with the War Department for a total of \$4.7 billion, and more than 10,000 with the Navy. It made a special effort to aid the really small firms; more than half of the number, and one third of the value, of prime contracts awarded were to companies with less than 100 employees.

Acted as Prime Contractor

It took 12 prime contracts itself, for \$35.5 million, farming the work out among the 260 small subcontracting firms, and in addition assisted in getting the award of more than 52,000 subcontracts with a value of \$30.6 million.

It made 5,808 loans and leases for a total of \$504 million. Nearly half of them were to companies with fewer than 25 employees, and almost two-thirds of them were for amounts of less than \$25,000; 84 per cent of all loans were for working capital purposes. Losses averaged only seven tenths of one per cent of disbursements.

With this picture of what a specialized agency could do for a neglected part of the industrial complex, it seemed a worthwhile pattern to follow for SDPA. Sparkman and his group of senators, however, made a few major changes in the old setup. They first introduced the proposal as a separate bill, but saw

a chance to speed its adoption as an amendment when the DPA extension act came along.

First, they decided against using the mechanism of a government corporation. The corporate setup, Congress has found, tends to give an agency too great control over its own funds, and the solons like to keep a tight hold on the purse strings. However, they made sure the agency would be independent, so as to escape domination by existing agencies accustomed to thinking primarily in terms of the needs of big business.

Second, SDPA was given one-man administrative direction. Taylor will have two deputies but will not have to cope with a board of directors, as Maverick did at the outset of SWPC. The world war experience proved that it is not feasible for five men to pass on day-to-day operating decisions, and Maverick was later delegated the whole authority as chairman, although the board continued to pass on loan applications.

Third, SDPA will not have its own money with which to make loans, as did SWPC; instead it will make loan recommendations to the Reconstruction Finance Corporation. It will have a revolving fund of \$50 million, just one-tenth of what SWPC had, but this is a reflection of the fact that current mobilization is only a fractional part of the mobilization needed in war. SDPA's sponsors, however, feel that one of the urgencies about the new agency is that in a semi-mobilization such as at present there is not the same pressure to bring in all producers, and hence the smaller manufacturers have a harder time getting along.

Using SDPA

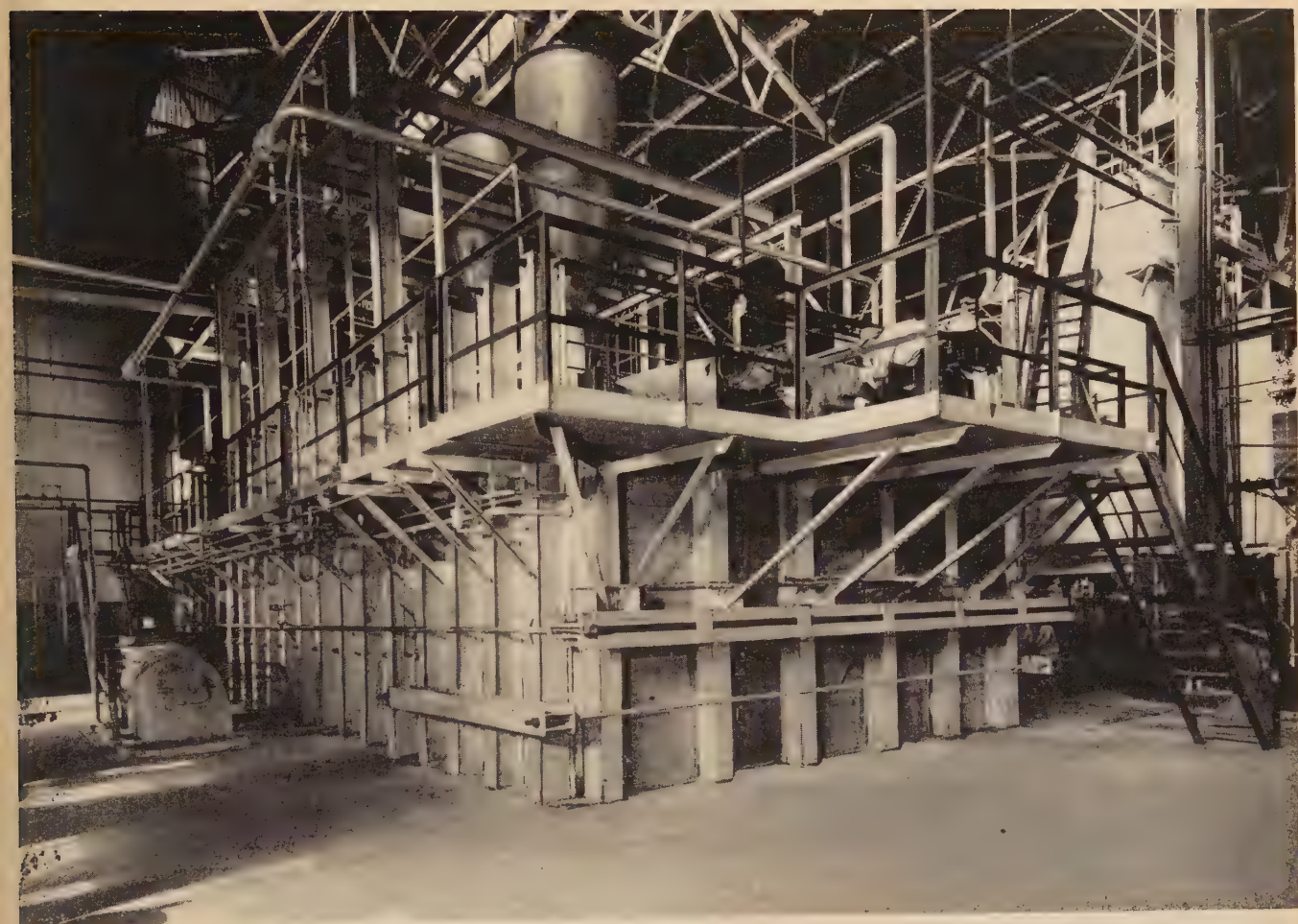
The bulk of SDPA's provisions, in which it parallels what was done in the last war, cover the field in which it expects to serve business men. How can the small manufacturer make use of it?

As a start, it should be noted that the new law liberalizes the definition of "small business." In the past one of the criteria for a manufacturing concern has been employment of less than 500 persons. This

(Continued on page 42)



GAS AT WORK



ONE of the largest and most modern gas-fired regenerative furnaces in industry is located in the Chicago plant of the Diamond Alkali Company. It is used in the manufacture of sodium silicate, commonly called water glass.

Sodium silicate is one of man's busiest chemicals and is used in the production of soap and bottles, making synthetic catalyst for refinery cat-cracking, impregnating wood, rendering bricks and cements nonporous, and as an adhesive in corrugated box making. Gas is used to maintain complete automatic temperature control necessary in the processing of the product.

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Materials Handling

(Continued from page 22)

economies when the occasion demands it. The Indianapolis plant of the RCA-Victor division of the Radio Corporation of America provides a classic example. In 1945, when reconversion to peacetime production was taking place, the receiving department was advised that it was being moved to another building. However, instead of getting the additional space it expected and presumably needed, the receiving department was cut down from 6,400 square feet to 3,600, or 44 per cent.

The problem was attacked from every possible angle. Methods and procedures were analyzed and improved. Workers in the department received new training, and new equipment was installed. Last year with 35 employees as compared with 38 in 1945, and with 44 per cent less floor space to work in, the receiving department handled 97,000,000 pounds as against 36,000,000 in 1945, an increase of about 270 per cent. One comparatively simple change, the installation of hydraulically controlled dock boards which could be raised or lowered to match the height of the truck bed, cut unloading time by 40 per cent.

Store Handling

The Gimbel Brothers store in Philadelphia avoided a heavy expenditure for a new freight elevator and at the same time cleared up the congestion in aisles and store-rooms when a complete study of the store's handling of goods showed that the elevators were not the bottleneck. The real need was for more wheeled equipment to move goods to and from the elevators faster. Instead of spending \$150,000 for a new elevator, the store solved its problem at about half the cost with roller conveyor dollies and other mechanical equipment.

The Hyatt Roller Bearing Division of General Motors Corporation at Harrison, N. J., substituted corrugated containers for wooden boxes, and installed additional machinery with the result that total volume handled per employee in the shipping department increased to 41,500 pounds from 13,000 per month.

Spectacular savings were realized

by the Thew Shovel Company, Lorain, Ohio, when incentives were applied to outside and inside material handling. Describing the results at the Material Handling Conference in Chicago last Spring, William J. Allaback, plant manager, said: "We've increased our production by 25 per cent which, of course, has increased our material handling activity by at least that same percentage, if not more. In spite of that, we've reduced our warehouse payroll from 123 people to 46 people and that includes supervision for two shift operation. We say any system which will permit increasing your productivity by 25 per cent and at the same time reduce the men on your payroll by 62 per cent works—and that's what the incentive system has done for us."

Rout Old Ideas

These few examples would seem to demonstrate one truth — there is always room for improvement. Frank C. Wier, superintendent of material handling in the steel and tube division of the Timken Roller Bearing Company, warns that anyone charged with responsibility for material handling in a plant should look with suspicion on any practices that are ten years old.

In spite of all the progress that has been made, experts in the handling of materials are far from satisfied. Allen K. Strong of American Cyanamid Company, general chairman of the Materials Handling Conference last Spring, declared in his keynote address that American Industry could have saved two of the nine billion dollars spent last year to move raw materials to plants, goods within plants, and finished goods to the retail store. Modern equipment and methods would have effected this vast saving, nearly a million men would have been released for more useful and needed production, he said.

Arthur Spinnanger, in charge of methods research and development in the industrial engineering division of Proctor and Gamble, Cincinnati, told the conference that the average cost of materials handling in industry runs as high as 30 to 40 per cent of the payroll. "When it

is realized that material handling, from a quality standpoint, usually adds no value to the finished product, it becomes obvious that excess material handling costs should be eliminated or minimized as much as possible," he said.

K. W. Frase, project engineer of P. W. Ross and Associates, Chicago, declared that lowering of costs by modern materials handling is still a virgin territory, and that rising labor and freight costs make mechanical handling a must. Frase is particularly critical of inter-plant movements which, he says, are so far from being modern that they constitute a "major economic tragedy." Private industry, he asserts, must contend with three tremendous money wasters: excessive freight rates for pallets and skids, the reluctance of common carriers to handle unit loads, and the absence of pallet pools that would enable shippers everywhere to share in a common supply of these basic items. Millions of dollars worth of pallets and skids are thrown away each year, and this waste could be avoided through pallet pools, Frase argues. He would go even farther and create pools of other loading and handling equipment which could be made available to all industry at low cost.

Navy Experience

A concrete example of what can be accomplished by a co-operative program of this nature is afforded by the experience of the United States Navy in World War II. By establishing a uniform system of unit loads, whether on pallets, in containers, or handled by some other arrangement, and by establishing a pallet pool, the Navy at the end of the war was saving 479 man hours for each hundred tons of materials moved from the producer to the overseas consumer.

Frase contends that the railroads could cut the turn-around time of freight cars by 50 per cent, which would be the equivalent of doubling their rolling stock, if they were equipped for mechanical handling of freight. The carriers have already made considerable progress in this respect. The two-wheeled hand truck has given way at freight stations to tractors, lift trucks, portable conveyors, jacks, cranes, and so on. The railroads have also been re-

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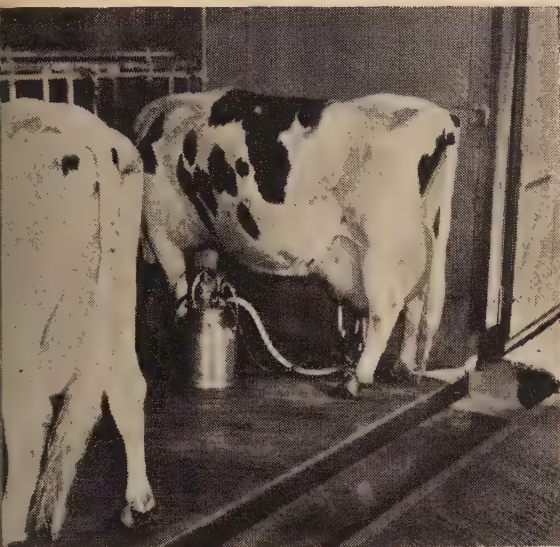
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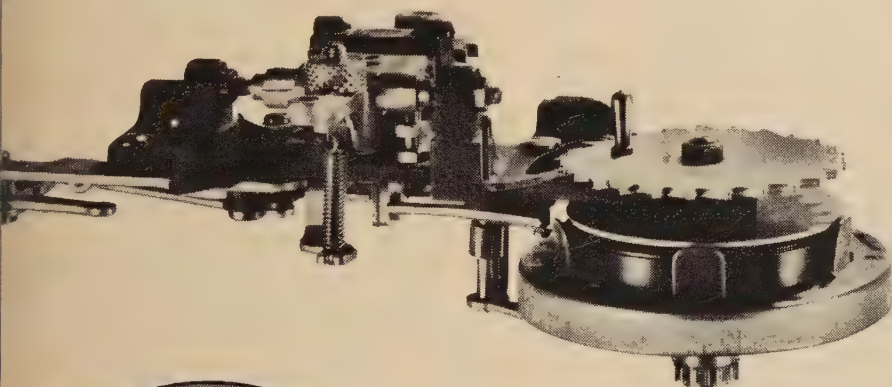
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ceptive to such innovations as the transportation of loaded truck trailers on flat cars and the carrying of special unit containers loaded by the shipper and delivered to the railroad by truck. Two railroads have recently introduced special types of containers for unit shipments. The Southern Pacific has developed an open top palletized container made of plywood and metal strips and of a convenient size for loading into motor trucks. The Missouri Pacific has developed a container it calls the "Speedbox." It is made of aluminum and can be sealed by the shipper.

The motor trucking industry has grown so rapidly that it has hardly had time to think about improving its efficiency in materials handling. Harry F. Chaddick, president of Standard Freight Lines, Inc., Chicago, says the greatest expense item in the operation of a trucking company is terminal handling costs, and that terminal operations must be mechanized.

The truckers, being relatively new at the game, were confused as to what kind of mechanization was best

for them, so they hired a firm of engineers to make a survey and analysis of the problem. Thousands of truck operators have paid \$100 a copy for a manual on terminal planning and operation prepared on the basis of the engineering survey.

What about labor, traditionally fearful of the machine that does the work of men? Does it accept the conveyors, mechanical loaders, lift trucks, cranes and other equipment which have eliminated so much of the heavy lifting and hauling that used to be done by muscle power? There has been a complete reversal in labor's attitude toward mechanical handling in the last few years, reports Nelson Friz, construction and maintenance assistant for Esso Standard Oil Company. Workers would now fight bitterly any attempt to go back to the old days of the not far distant past. It is not unusual, says Friz, for workers in a plant to ask when they can expect to get some new type of handling equipment they have heard about. And that would seem to make it unanimous.

Program For Western Victory

(Continued from page 15)

paid by our populations who must in many cases be satisfied with a standard of life that is extremely low. It also represents the reason why we are incapable of carrying out our reconstruction alone and achieving our rearmament by ourselves.

One of the aims of United States policy must be to urge on the organization of Europe, to urge it on energetically and without any loss of time. You did it by creating the E.C.A., by supporting the Schuman Plan, and you must do it by giving your agreement to the idea of a European Army. You might do it even more energetically still by putting each time, as a condition to the help you will have to go on granting us for some time yet, the carrying into effect of a further step toward the suppression of economic barriers which divide Europe.

For some years now I have been fighting for the constitution of a new Europe. My impatience is growing. Events go faster than we do and I fear that once more we may be too late, and that we may pay dearly one day for our hesitancy.

A Europe, united in the very near future appears to me absolutely necessary, indispensable to solve the three essential problems set down by the Soviet threat, the incredible development of the United States and the German question.

Russian Strategy

I have said that Russian strategy did not make me foresee the probability of an immediate war. More subtle and probably more dangerous, it forces us to solve one of the most difficult problems, especially for the European countries whose economic balance is not yet achieved. That is the problem of making an immense effort to rearm without lowering too much the standards of living of the populations.

It was Goebbels, or was it Goering, who once said to the Germans "Better have guns than butter!" This slogan is utterly inadmissible in democratic countries where both parliament and the press are free where the right to criticize exists. The people at home will never



ain expect to sacrifice for years, preparing for war, their right to decent way of life.

The first success of the Soviets is have confronted us with that problem. They know that there are not in the West really deep communist tendencies.

Of true communists who approve the doctrine and the aims of Communism there are, in fact, but a very few in Europe. But there are embittered, disappointed, desperate people who would express their feelings through communist discipline. There lies the danger.

My contention is that in Europe communist power is a direct function of both the material difficulties met by the working classes and their standard of living.

The British socialist review "Reynolds News" undertook an interesting survey. It had some specialists compute how long it took a worker in various European countries to get the essential commodities. To be able to buy the quantity of the 12 commodities necessary for his needs, the Swedish workman works for 263 minutes, the Englishman 437; the Belgian 743; the Italian 1688, and the Frenchman 2249. There is practically no Communism in Sweden and in Great Britain; there is very little of it in Belgium—less than 5 per cent. On the other hand, both in France and in Italy its forces are great and dangerous. Consequently my conclusion is positive. In Western Europe to fight Communism efficaciously, and I wonder indeed if it is otherwise elsewhere in the world, one must first fight want.

Socialism

In that respect, I should like to draw your attention to the importance there is for you, Americans, to judge objectively one of the political movements which in Europe fights want the most efficaciously: Socialism.

I am well aware of the fact that generally speaking, Socialism does not have a good press in the United States, and that many Americans condemn it with as much energy as they condemn Communism itself, with which they mistake it, quite wrongly. I am convinced, at the same time, that both the United States and Europe must work together, and that Socialism will play an important part in Europe in the forthcoming years.

To think that Socialism is a materialistic and totalitarian doctrine is to mistake a caricature for reality. This summer, in Frankfurt, when the socialists wanted to define again the principles of their doctrine they said: "Socialism is an international movement which does not demand a rigid uniformity of approach. Whether Socialists build their faith on Marxist or other methods of analyzing society, whether they are inspired by religious or humanitarian principles, they all

strive for the same goal—a system of social justice, better living, freedom and world peace."

This constitutes an unequivocal affirmation that one can be socialist without being Marxist, that one can try to express one's religious feelings through Socialism, but that on the other hand, no matter what the doctrinal basis of his convictions, a Socialist must be a democrat, a champion of freedom. When I hear Mr. Paul G. Hoffman ask the Europeans to think over the three fac-



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Motorola Stockholder Mack D. Norton of Atlanta, Ga., happily inspects "his" plant in Chicago as a guest of top management.

A meat plant divisional supervisor and owner of 110 Motorola shares, Mr. Norton was recently named "Motorola Stockholder of the Year," for making the winning suggestion in a unique nationwide contest for Motorola stockholders. His suggestion, according to the company, involved "how Motorola's leadership in car radio research can be tied in with its television manufacturing in advertising and promotion."

His prize was an expense-paid week's vacation for himself and his wife at Chicago's Edgewater Beach Hotel, a Motorola TV set and a trophy presented to him at a banquet last month. Motorola executives believe the contest plan not only brought stockholders and management closer together, but also produced excellent ideas.

tors, which, in the unanimous opinion of his compatriots were decisive for the progress achieved in the United States during the last half century—the increase of production, a more equitable distribution of wealth, and a more social conception of the function of management—I tell myself that beyond the quarrel of words and doctrines, through different channels, minds in the West reach similar conclusions.

But, although I have far from exhausted that subject, I realize that I am wandering off a little and that I have to draw some conclusion on that point. If we want to solve in Europe today the difficult problem set by Communism and the strategy of the Kremlin, that of raising the standard of living of the populations to fight poverty, and of re-arming, we must unite. We have to produce more. It is essential, and it can only be done in a wide market comparable to that of the United States, where we could both multi-

ply and rationalize our efforts. Isolated, divided, set up against another to maintain artificial advantages which are meaningless in the present situation, we would be unable in the long run to fulfill our double mission, and we would witness one day the conquest of Europe by Communism, be it the result of armed aggression or internal decay.

A united Europe is necessary, too, in the face of the tremendous development of the United States, in the face of the total supremacy which is about to acquire. The defense of our civilization must be the common work of both the United States and the countries of Western Europe. Happy and equitable solutions can only be found in free and candid discussion. Such discussion is already very difficult today; it might very well become impossible tomorrow.

In a year or two the United States will have become militarily so powerful

ful that everything in the Western world as it is today will depend on her to such an extent that she will no longer have any partner in front of her. Not one country in Western Europe will alone be able to influence such a formidable power. I cannot believe that it would be a good thing.

I see no argument against the Western world having a leader. And I recognize, I accept, the fact that today, only the United States can be that leader. But there can be no question of a brutal and absolute domination wielded by her. There can be no question of going back to the conception Hitler tried to impose or to the one Stalin is masterminding. The Western community must constitute an alliance of free peoples. In this world there is no possible balance between the United States on the one hand, Great Britain, France, Italy and Western Germany isolated and divided, on the other. But there is a conceivable and desirable balance between the United States on the one hand, and a European community on the other.

Independent — Not Neutral

I never felt that a Europe organized on the new basis should be considered like a Third Force, trying to take and keep a neutral position between the U.S.S.R. and the United States. Such an idea seems to me both utterly impracticable and utterly false. But I think that a new Europe must constitute a force which deliberately chooses its side and this must be that of the United States, since it is there that are found freedom, democracy, the respect of men and peace. But, it goes without saying that if on that side everyone must be able to act in a climate of friendship, they must also be able to act on a perfectly equal footing.

Thus a United Europe is not only necessary for the prosperity of the various European countries, it is indispensable to their political independence as well as to the balance of the world.

Lastly, a United Europe is, in my eyes, the only way to solve the most important of the European problems: the German problem. The time has come to make our choice, to know what attitude we are going to have towards Germany once and

for all and, having made our choice, accept all its consequences.

Were we to reason theoretically, one could contend that it would be better to go on waiting, to wait until Germany has definitely risen out of the chaos both material and moral into which she was dragged down by Hitlerism, war, defeat and occupation.

But events do not permit such wisdom. We have to state the problem rather brutally: Shall we go on considering and treating Germany

as an enemy country, or shall we try to integrate her, on an equal footing, into the European community and from there into the Atlantic community?

There can be no doubt as to the answer. The second side of the alternative is the only conceivable one.

But time works against us. If we dally any longer the trend of events which travels swiftly will be entirely out of our control. It is obvious that

(Continued on page 39)



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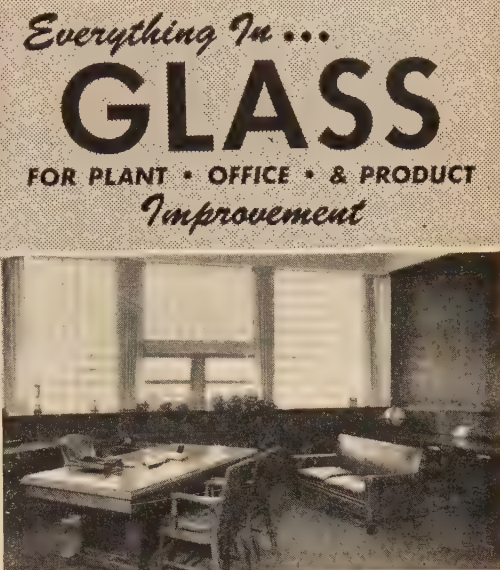
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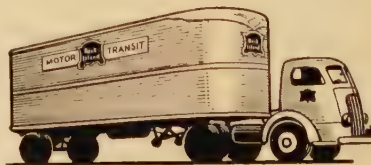
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Invest in the MIDDLE WEST

Reviews of Middle-western Companies

By DANIEL F. NICHOLSON

IN 1923, four years before DuPont introduced its revolutionary new wrapping material under the name cellophane, a new company had entered the business of printing on the glassine paper used to wrap candy bars. The company promptly turned its attention to cellophane, and solved the problem of printing on this new material. In 1932 it acquired basic patents for printing on cellophane and other materials by the fast and flexible rotogravure process.

The company, now known as the Shellmar Division of the Shellmar Products Corporation, jumped to early leadership in "converting" cellophane to a variety of packaging uses. Shellmar has continued to hold this leadership in the many new packaging materials that have joined cellophane in the last few years and have helped to revolutionize the merchandising of countless products.

Plastic Packaging

While cellophane is still the leader in the plastic films in terms of volume, the development of dozens of new films, each with a characteristic that makes it especially suitable for some new use where others would be inadequate, has opened up virtually unlimited possibilities. Plastic films, usually transparent for the purpose of displaying the product attractively, are now used in the packaging of an almost endless variety of products, with the biggest market being in the food field. One interesting recent development has been the pre-packaging of meats by chain stores. The various cuts, wrapped in transparent material and with the weight and price stamped on them, are placed in open-top refrigerated cases where shoppers can help themselves. The increase in efficiency over the pre-

vious method of cutting each piece of meat to order is obvious.

Shellmar, through its own extensive research, has contributed importantly to the use of the plastic films and other materials by the food and other industries. The company has been especially active in developing laminations combining two or more materials to obtain certain desired results. Two recent examples are the company's development of wrappers for oleomargarine and for the packaging of textiles.

Oleo Business

In 1947 Shellmar had introduced a new transparent pouch that permitted the coloring of margarine by the consumer without removing it from the pouch. A capsule containing the coloring material was contained within the pouch and could easily be squeezed open, and then the coloring could be kneaded into the margarine. The new package added substantially to sales for 1948 and 1949. Then Congress removed the Federal tax on margarine, ending the need for the coloring pouch in most states. Instead of being a blow to Shellmar, this opened the way for even larger sales of another new product—Durofoil—a lamination of printed aluminum foil and grease proof vegetable parchment paper. By using Durofoil the margarine manufacturer can package his product in quarter pound units that retain their flavor, freshness and moisture better than a solid one pound unit.

Sheets, pillowcases and other textiles are now wrapped in attractively printed, transparent material as a result of Shellmar research. The company solved the packaging problem created by the fact that these bulky and heavy materials lacked rigidity, and the more important problem resulting from their tendency to embrittle a transparent ma-



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terial through moisture absorption. In cooperation with textile manufacturers, Shellmar developed "Tex-Til-Rap," a lamination of transparent, moisture proof cellophane employing a specially formulated laminating medium. Marshall Field and Company's "Fieldcrest" sheets and pillowcases are now packaged in Tex-Til-Rap.

Striking Containers

Other products of Shellmar include pouches, envelopes, bags and just about any other type or form of packaging desired by the customer. Each is carefully designed for the use to which it is to be put. Some materials must withstand severe cold, others heat; some must be moisture proof, and others must permit the moisture vapor to escape. One thing the wrappings and packages have in common is a highly attractive appearance. The company's own art department produces some designs in collaboration with the customers.

The mushrooming growth and exceptional potentialities of the Shellmar Division inevitably overshadow its highly successful com-

panion, the Self-Locking Division of Shellmar Products Corporation. The Self-Locking Division is the country's largest manufacturer of egg cartons, and its leadership also is based in a large measure on continuing large expenditures for research in new products, new applications, and more economical production methods.

For many years the Self-Locking Division produced a flat-bottom, center-board carton that was set up by hand. In 1928 a self-locking cushion type of carton with V-shaped bottom and small cuts in the bottom of the V of each egg compartment was introduced. Self-Locking also produces and leases automatic carton set-up machines, automatic carton closers and sealers, and conveyors and other devices to mechanize the packing of eggs.

Since 1938 when the S.C.S. Box Company was acquired, Self-Locking has been developing cartons moulded from pulp. Last year the company acquired the Fibre-Plastics Corporation of Minneapolis. "Assets acquired included equipment, patent applications, and manufacturing processes in connection with the

manufacture of a new molded pulp egg carton for cross-country shipment of eggs," it was announced.

Molded pulp cartons are being sold mostly to jobbers, and the company expects to sell large quantities direct to egg packers who want their own labels and trade marks imprinted. The advantages of the molded carton are many. It can be produced by a continuous process that includes imprinting by a method developed by the company; it is already "set up" and therefore requires less handling by the egg packer; it weighs less than the conventional cardboard carton and it can be produced to have what one company official calls a "jewel-box" attractiveness.

Packers and manufacturers of foods and other items have asked Self-Locking to produce molded cartons for their products, and the company believes there is a large potential market outside the field of eggs.

Company History

The history of Shellmar Products Corporation in its present corporate form is relatively brief. The company was formed in 1945 as a "statutory" merger of Shellmar Products Company and the De Graff Corporation. The two divisions continued to operate virtually as separate companies. Headquarters of the Shellmar Division are in Mount Vernon, Ohio, while Self-Locking carton division has headquarters in Chicago.

The principal plant of the Shellmar Division is located in Mount Vernon. In 1945 the company acquired a plant at South Gate, California, and in 1947 a plant in Zanesville, Ohio, was purchased. The Self-Locking Division's plants are at Morris, Ill., and Palmer, Mass. Substantial sums have been devoted to capital expenditures in the last several years, including \$1,004,005 in 1950 and \$829,714 in 1949. On April 18 of this year directors of the company authorized the expenditure of approximately \$3,000,000 for new buildings and equipment, of which about two thirds will be spent on the Mount Vernon plant. At the end of 1950 the Shellmar Division had 23 sales offices and the Self-Locking Division 15 sales offices in the United States.

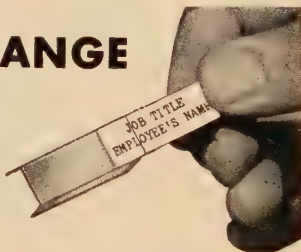
The Shellmar Division is moving steadily toward broad coverage of foreign markets. Foreign subsidi-

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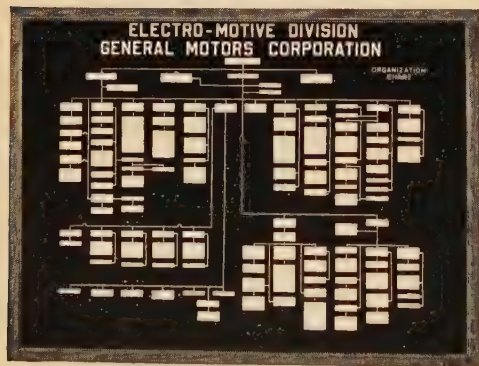
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aries consist of two companies in Brazil, one 100 per cent owned and the other 80 per cent owned; a 75 per cent owned company in Mexico, and wholly owned companies in Colombia and Panama. Minority interests are held in plants in Australia, South Africa, and Peru. Net income of foreign subsidiaries in 1950, after allowing for minority interests, amounted to \$176,595 as compared with \$28,785 in 1949. The parent company did not receive any dividends from the foreign subsidiaries in 1950 or 1949, and their earnings were not consolidated with those of the parent in 1950.

Sales for direct export to countries where Shellmar's own plants and affiliates do not operate increased substantially in 1950, the company's annual report stated. "Further expansion of this volume will be undertaken as the necessary supplies of materials become available," the report added.

The two divisions that make up Shellmar Products Corporation have always operated at a profit. Sales and earnings of the company reached new highs last year, despite the fact that most of the basic materials used in the plastic film division were on allocation.

Sales Up Sharply

Net sales for 1950 amounted to \$34,039,990, an increase of 22 per cent over 1949 sales of \$28,033,311. While higher selling prices were in effect in 1950, the physical volume of production and shipments was "substantially" larger than in the preceding year, the company reported. The extent of the sales gain that has taken place, largely because of expansion in the Shellmar Division, is indicated by a comparison with combined sales of \$8,969,625 for the two divisions in 1941.

Net earnings for 1950 rose 53 per cent to \$2,562,712, equal to \$5.72 a share on the common stock after allowing for preferred dividend requirements. Net earnings for 1949 were \$1,676,874, or \$3.88 a share. The 1949 figures are revised to exclude earnings of foreign subsidiaries.

During the first six months of 1951, net sales totaled \$23,522,255, against \$14,681,555 for the first half of 1950, or an increase of 60 per cent. Net earnings increased 50 per cent to \$1,491,079, or \$3.26 per share on the common stock, from

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\$994,286, or \$2.32 a share on a smaller number of shares.

Following is a comparison of net sales, net income, and earnings per common share, for the years 1946 to 1950, inclusive:

	Net Sales	Net Earnings	Com.
1950	\$34,039,990	\$2,562,712	\$5.73
1949	28,924,936	1,676,874	3.88
1948	28,672,993	2,027,093	4.73
1947	22,162,551	1,862,772	4.32
1946	15,739,989	1,403,952	3.21

*Per Sh.

*After preferred dividends, and based on 433,000 shares in 1950 and 410,000 shares in earlier years.

The company borrowed \$4,000,000 on long term notes to finance its postwar capital expansion and to provide additional working capital. This debt had been reduced to \$2,791,000 by the end of 1950.

Other capital items outstanding as of December 31, 1950, consisted of 35,345 shares of \$50 par value $4\frac{3}{4}$ per cent preferred stock, and 433,000 shares of \$6 par value common. The first public offering of common stock was made in 1946. In addition to the outstanding shares, the authorized capitalization includes 200,000 shares of unissued \$50 par value second preferred stock. During 1950 the company granted restricted stock options to 64 officers and key employes for 18,950 shares of the common at \$23 a share to October 18, 1955 and as of June 30, 1951, the total common outstanding was 445,000 shares. The common stock is listed on the Midwest Stock Exchange.

A registration statement covering 100,000 shares of convertible preferred stock has been filed with the

Securities and Exchange Commission. Part of the proceeds from the sale of the new stock is to be used to retire the present $4\frac{3}{4}$ per cent preferred and the balance will be used to finance construction.

Following the first public offering, the company paid an initial dividend on the common stock on April 1, 1946. Dividends have continued without interruption, and the quarterly rate was increased to 50 cents a share with the payment distributed April 1, 1951, from previous 40 cents. The total distribution this year amounts to \$1.90 a share on the common, as compared with \$1.60 in 1950 and 1949, \$1.10 in 1948, \$1.00 in 1947, and 75 cents in 1946.

At the end of 1950, current assets of the company totaled \$9,504,127 including cash \$2,757,857, receivables \$2,917,442, and inventories \$3,656,014, while current liabilities aggregated \$3,048,371.

Property, plant and equipment were carried at \$7,266,671 after depreciation of \$4,116,446, and total assets amounted to \$17,975,326. At the end of 1949 the total assets figure was \$14,786,068.

The conservative dividend policy followed by the company has resulted in the building up of the stockholders' equity at a rapid rate. As of December 31, last, the stockholders' equity was \$12,172,313, or nearly double the \$6,380,791 as of December 31, 1946. The book value of the common stock was \$24.03 a share at the end of 1950, against \$19.59 a share at the end of 1949.

Trends In Finance and Business

(Continued from page 10)

with the preceding six months. Companies listed on the New York exchange paid out \$3,730,093,000 in common stock dividends in the first nine months, for an increase of 9.4 per cent over the \$3,410,260,000 paid in the comparable 1950 period. In the first half of this year dividends by listed companies topped the first half of 1950 by 17.3 per cent.

The exchange notes that only six industries made smaller dividend payments in the first nine months than in the same period last year. They were shipbuilding and oper-

ating, automotive, amusement, tobacco, financial and leather. Largest percentage gains were turned in by petroleum and natural gas companies, aircraft, textile, mining, rubber, steel and iron, railroad and railroad equipment, farm machinery and paper and publishing industries.

The New York Stock Exchange figures the average yield on the 943 common stocks which paid dividends, based on market prices of October 15 and cash dividends in the year through September, at six per cent.

Here, There and Everywhere

(Continued from page 8)

of the noise or snow, the naval lab has found. "By investigating various shapes of electronic detectors," it adds, "the most efficient one for best performance can be selected."

• **Singers Wanted**—The Chicago Association of Commerce and Industry Glee Club reports that a limited number of memberships are now available for tenors and basses. It promises participants in its famous musical organization good fellowship and the opportunity to keep their vocal chords in excellent shape. Further information may be obtained from William Cavell, Glee Club Secretary, Chicago Association of Commerce and Industry, 1 N. LaSalle street, Chicago.

• **Investment Course**—An evening study course, designed for working adults with moderate funds to invest, will be inaugurated on October 30 by the downtown center of the University of Chicago. The lecturer will be Robert H. Pease, vice-president of Draper and Kramer.

Program for Western Victory

(Continued from page 33)

if Western Germany were to go over to the Russian side today, what is left of Europe would be in mortal danger and the world's equilibrium would be finally lost to the advantage of the Communists. This is what we have to prevent.

There is but one way, and that is to face the future resolutely and use brand new formulas. We must start on a completely new basis with the perfect understanding that a new war which would set Germany against her Western neighbors constitutes the end of Europe without further ado! Therefore let us on either side get over our reactions both psychological and sentimental, even if they are indeed understandable. And let us make up our minds once and for all that it is more important to ensure our common future than argue about a past which set us fiercely one against the others.

Germany must be integrated into the Western community. It can only be done by granting her equality of rights. But equality of rights added to an absolute sovereignty seems



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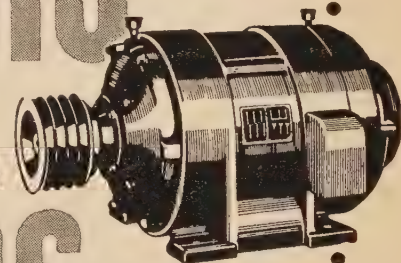
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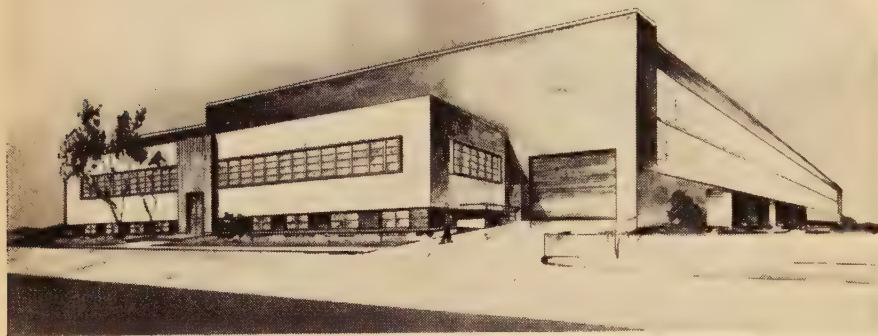
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to me terribly dangerous. The same causes must bring back the same results. A Germany endowed with sovereignty, isolated and rearmament will probably fall back into the same errors which cost her and cost us, so dearly. What is needed for our common security is the offer to Germany of something entirely new which would constitute a breaking off from her past at the same time as a hope for her future: the equality of rights in a United Europe in which her sovereignty as well, indeed, as that of the others, would be limited. Outside this audacious course, which has a chance of succeeding only if it is swift, I see no solution to the Germany problem. Furthermore, I am convinced that Germany would be once more an element of trouble in Europe and in the world.

Continental Only

Those who are chiefly responsible for policy realize that the European community has become indispensable. I had always hoped that this European community would not be continental only and that Great Britain would belong to it. It appears that we must give up that hope, for the time being, at least. Very well. Let us accept reality, and let us try to make the most of it. Let us be conscious of the historical moment in which we are living. This Fall we may see the foundations of a Continental European Federation being laid.

It will be the dawn of a new era in the history of Europe, the beginning of a rebirth in which for the reasons I have explained, the United States is essentially interested.

I am glad to be able to end on an optimistic note. We are confronted with it is true, by very difficult problems. Our civilization has never known a more serious threat. We are being called upon to make tremendous efforts, but all that is not outside our possibilities. Our natural wealth is immense, much greater than that of our opponents. Our moral concept is far more beautiful. Consequently, our fate is in our own hands. We can only be vanquished if we are not equal on the occasion. This cannot, this must not, happen.

Our generation will be the one to save Western civilization and to ensure upon the earth justice and liberty for men as well as peace for the nations.



INDUSTRIAL DEVELOPMENTS

IN THE CHICAGO AREA

INVESTMENTS in industrial development in the Chicago Industrial Area during October totaled \$23,755,000 compared with \$27,409,000 during October, 1950. Total investments for the first ten months of 1951 amounted to \$290,133,000 compared with \$300,018,000 for the same period in 1950. These developments included expenditures for the construction of new plants, additions to existing industrial buildings, and the acquisition of land or buildings for industrial purposes.

Republic Steel Corporation, 118th and Burley avenue, South Chicago, is converting a 70-ton electric furnace from side door charging to top charging and thereby will increase production at this mill by 50,000 tons a year. A substantial sum is being invested in this expansion for increased amperage, electrode holders and other auxiliary equipment as well as the transformer capacity must be enlarged to handle the increased tonnage.

Pioneer Paper Stock Company, 148 W. Ohio street, paper processing unit of Container Corporation of America, is constructing a new facility at 2600 Elston avenue. Morton L. Pereira and Associates, architects; Ragnar Benson, general contractor.

Doehler Jarvis Corporation, 2255 W. 43rd street, producer of die castings, is constructing an addition to its plant. Campbell-Lowrie-Lautermilch Corporation, general contractors; Olson and Urbain, architects.

National Lead Company, 12042 S. Peoria street, is constructing a three-story and basement addition to its plant. John Juckers, general contractor; Bjarne Lund, architect.

Lever Bros. Company, which op-

erates a soap and edible products plant in Hammond, will construct a large warehouse on an adjacent site. Bechtel Corporation, engineer and general contractor.

Standard Steel Spring Company, Corapolis, Pa., and Chicago, is operating the Fox River Ordnance plant in Batavia.

Binks Manufacturing Company, 3124 W. Carroll street, manufacturer of paint and lacquer sprays and water cooling systems, has purchased a 24-acre site in Franklin Park on which it will construct a factory.

Metal and Thermit Corporation, 415 151st street, East Chicago, Ind., is adding approximately 40,000 feet to its plant facilities. Austin Company, general contractor.

Austin-Western Company, Aurora, Ill., has added approximately 25,000 square feet of floor area to its plant. Victor L. Charn, architect; Ragnar Benson, Inc., general contractor.

Spool Cotton Company, manufacturer of cotton threads and other cotton items, is constructing a 70,000 square foot warehouse at 8200 Skokie Highway in Skokie. Enjay Construction Company, general contractor.

Magnaflux Corporation, 5900 Northwest highway, will construct a one-story plant containing 70,000 square feet of floor area in the village of Harwood Heights.

Reserve Supply Company, 1529 S. Jefferson avenue will move to a building now under construction near Mannheim road west of Franklin Park. Engineering Systems, architects; City Wide Builders, general contractor.

Container Corporation of America, 38 S. Dearborn street, has constructed an addition to its paper manufacturing plant at 404 East North Water street. Morton L.

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Pereira and Associates, architects;
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Nash Motors Division of Nash-
Kelvinator Company, Kenosha, Wis.,
has had a 50,000 square foot ware-
house built by the Clearing Indus-
trial District at Cicero avenue
and 67th street. Bowes Realty
Company, broker.

Triangle Paper and Box Com-
pany, 2433 S. Michigan avenue,
manufacturer of corrugated car-
tons, has acquired new quarters at
1501-35 W. 15th street. This rep-
resents an expansion of this com-
pany's factory, warehouse and
offices.

Midland Die and Engraving Com-
pany, 1808 W. Bernice avenue, is
constructing an addition to its
plant. Enger Brothers, general con-
tractor.

Just Manufacturing Company,
4610 W. 21st street, Cicero, is con-
structing a larger plant at 9203
W. King street, Franklin Park.
Continental Construction Company,
general contractor.

Ohmite Manufacturing Company,
4835 W. Flournoy street, will con-
struct a new plant at 3601 Howard
street, Skokie. Friedman Alschuler
and Sincere, architects.

Studebaker Corporation is having
a warehouse and office building
constructed at Skokie boulevard in
Northfield Township.

Abbott Laboratories, Inc., North
Chicago, is constructing a 28,000
square foot three-story building.
Carroll Construction Company, gen-
eral contractor.

Central Manufacturing District,
Inc., 38 South Dearborn street, has
purchased 17½ acres of land ad-

jacent to its holdings at west 4
street and Crawford avenue.

United States Plywood Corpora-
tion, 900 W. Division street, will
construct a 35,000 square foot a-
iliary warehouse at 9621 S. Cott-
Grove avenue. Naess and Murp-
architects; Charles B. Johnson a-
Son, Inc., general contractor.

J. P. Seeburg Corporation,
North Dayton street, has acquir-
a three-story factory at the sou-
west corner of Weed and Day-
streets.

Service Metal Fabricators, 2
W. 58th street, is constructing
30,000 square foot addition to
plant. Edwin E. Hartrich and S-
general contractor.

General Porcelain Enameling a-
Manufacturing Company has
gun construction of a two-st-
addition to its plant at 4105
Parker avenue. The addition w-
be occupied by a subsidiary co-
pany, Acme Wiley Company.

Walter Precision Company, 14
N. Noble street, manufacturer
screw machine products, has p-
chased property in Franklin Pa-
on which it will construct an 8,0-
square foot factory.

Neumann-Buslee and Wolfe, In-
224 W. Huron street, manufactu-
of flavors and essential oils, is m-
ing into a new one-story building
5800 Northwest highway.

Advance Glove Manufactur-
Company, 901 W. Lafayette stre-
Detroit, has acquired the one-st-
building at 2640 N. Greenvi-
avenue which was formerly oc-
pied by Powers Regulator Co-
pany. J. H. Van Vlissingen a-
Company and J. J. Harrington a-
Company, brokers.

New Voice For Small Business

(Continued from page 24)

figure is no longer mentioned, and
the administrator is given consider-
able leeway in judgment as to what
type of firms he is entitled to aid,
being instructed to keep in mind
"independency of ownership and
operation, number of employes, dol-
lar volume of business, and non-
dominance in its field."

To help such concerns as fall
within this definition, the adminis-
trator has been authorized to use
his \$50 million revolving fund for
the following purposes:

1. To enter into contracts with

the U. S. government and any
partment or officer with procu-
ment powers, to furnish articl-
equipment, supplies and materi-
to the government.

2. To arrange for subcontract-
such work to small business co-
cerns, or to pay for the manage-
services necessary for SDPA to p-
form the contracts.

3. To provide technical and m-
agerial aids to small companies
maintaining a clearing house
technical information.

The first of these powers—that

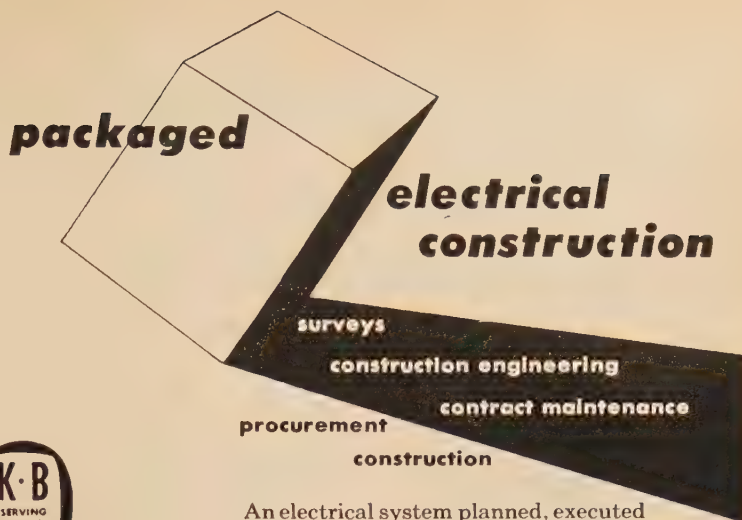
making government contracts — is SDPA's "big stick." It is not expected that the agency will use it to a great extent. SWPC took only 12 prime contracts during World War I, but the power to take them served to help convince reluctant procurement officers to accept SWPC's small business clients on some occasions when they would have preferred to give the business to someone else.

The third power will enable SDPA to aid small manufacturers whose shift to defense or essential civilian production takes them into new techniques. For example, a company which has been making office furniture might be capable of undertaking the production of glider wings for the Air Force. Perhaps the specifications for application of wing varnish would involve a process outside the experience of the company. SDPA would be able to collect the required information and make it available to the small contractor. The same might apply to various machine tool techniques. In addition to its own revolving fund, SDPA will be able to call on the resources of the RFC to the extent of \$100 million on behalf of small business.

Defense Loans

Terms, conditions, and maturity of the loans will be determined by the RFC, but the SDPA Administrator will go to bat for the smaller manufacturer to get money for the following purposes: "to finance plant construction, conversion, or expansion, including the acquisition of land; or finance equipment, facilities, machinery, supplies, or materials; or to finance research, development, and experimental work on new or improved products or processes; or to supply such concerns with capital to be used in the manufacture of articles, equipment, supplies, or materials for defense or essential civilian purposes; or to establish and operate technical laboratories to serve small business concerns."

This outlines the direct ways in which SDPA can serve. In addition it is set up to be of indirect aid as the little fellow's representative in the government when the scarce materials pie is being cut up. Various



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divisions of existing agencies have theoretically been assigned in the past to the job of safeguarding the small business man's stake in the economy, but the proposed aluminum ban is an example of how this can be overlooked in moments of stress.

The new law lays down as one of the duties of the SDPA Administrator the duty "to consult and cooperate with appropriate governmental agencies in the issuance of all orders limiting or expanding production by, or in the formulation of policy in granting priority to, business concerns. All such governmental agencies are required, before issuing such orders or announcing such priority policies, to consult with the administration." Consultation is not compulsion, but it provides assurance that SDPA will give a chance to squawk in public if it thinks its clients are about to be robbed.

Congressional Goal

The law expresses as Congressional policy that "a fair proportion of the total purchases and contracts for supplies and services for the government shall be placed with small business concerns," and it is up to Taylor to see that this is carried out. It also demands protection of small business in allocations programs: "a fair and equitable percentage thereof shall be allocated to small plants."

Subsidiary duties given the administrator include the certification of his clients as competent to handle government contracts; if the administrator so certifies, procurement officers must accept it as conclusive.

If the SDPA works out as planned, one of its effects will be to make the Washington "five percenter" obsolete as far as small business is concerned. One of mobilization's oldest jokes is to define the small business as "one which cannot afford to hire a Washington representative." In effect what Congress has done in setting up SDPA is to hire one for all small business. Congress and the Administration know that the small business man is politically potent since there are more of him than there are big business men. The new agency is his to command, and there is no commission to pay.



TRANSPORTATION and TRAFFIC

☆

THE RAILROADS have asked the Interstate Commerce Commission to extend the time for filing of the new uniform freight classification from December 1, 1951 to February 1, 1952. The carriers' letter to the commission states that they had planned to file the classification on December 1, but that considerable work remains to be done. The communication adds: "In order to be in a position to file the uniform classification on December 1, 1951, it will be necessary to have final proof in the hands of the printer not later than October 25. Since the work cannot be fully completed by that time, if the classification is filed as of December 1, it will be necessary to file a supplement containing many important changes, such supplement to be effective the same date as the original uniform classification." It is the intention of the railroads to make the new classification effective 120 days after filing and they propose that all requests for suspension be filed 45 days prior to such effective date. They also suggest that the new class rates be filed simultaneously with the uniform freight classification to avoid misunderstandings and reduce the number of protests and requests for suspension.

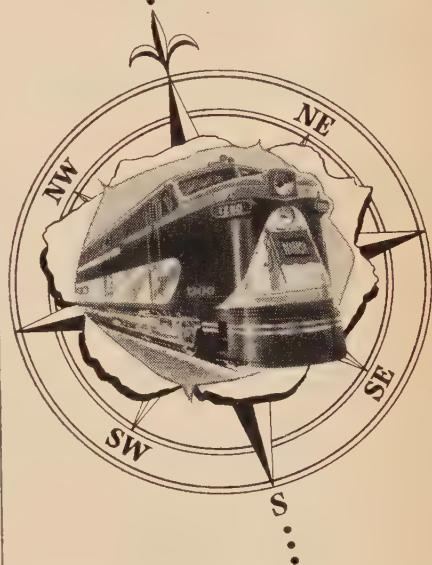
Motor Leasing Order Postponed to December 1: The Interstate Commerce Commission has further postponed the effective date of its order in Ex Parte MC-43, Lease and Interchange of Vehicles by Motor Carriers, to December 1, 1951. The action was taken in view of court suits which have been filed seeking to have the order set aside. Among other things, the commission's order would eliminate trip-leasing of equipment by requiring that authorized carriers performing transportation in equipment which they do not own, do so only under at least a 30-day written contract or

lease with the owner. Compensation in such cases may not be computed on the basis of any division or percentage of the rate or rates or revenue earned on any commodity or commodities transported in the vehicle.

Congress Passes Bill to Reduce Size and Weight of Parcel Post: Congress has passed the compromise bill, S. 1335, to reduce the size and weight limits on parcel post packages. The measure has now been sent to President Truman. The bill as finally approved by Congress will reduce the present 100 inch length and girth size limit on parcel post packages mailed from or to first class post offices to 70 inches and will lower the present 70 pound weight limit to 40 pounds on mailings to the first and second zones and to 20 pounds on mailings to the third to eighth zones.

A.A.R. to Create Section on Loss and Damage Prevention: The board of directors of the Association of American Railroads has approved the creation of a new freight loss and damage section within the A.A.R. In announcing the move the A.A.R. stated: "In view of the fact that prevention of loss and damage is essentially an operating matter, the new section is to be a part of the operating-transportation division of the association, with headquarters in Chicago. Membership of the new committee, which will be territorially representative, will include the chairman and executive vice-chairman of the freight claim division, the chief engineer of the freight loading and container bureau; the chairman or other representative of the freight station section; the protective section, and the mechanical division of the A.A.R.; and the managers of the eastern and southern weighing and inspection bureaus, the Transcontinental Freight Bureau and the Railroad

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Perishable Inspection Agency." The announcement adds: "The effectiveness of claims prevention work is indicated by the fact that since 1948 when claims payments reached their highest point, there has been a reduction of 35 per cent in payments, with corresponding reductions in the number of claims filed. The ratio of claims payments to freight revenues, which stood at 1.61 per cent in 1948, declined to 1.09 per cent in 1950."

Reassign Hearing in Interterritorial Pick-Up and Delivery Case: The Interstate Commerce Commission cancelled the October 23 hearing in I. & S. Docket 5960, Pick-Up and Delivery on Interterritorial Traffic, and reassigned the proceeding for hearing on November 26 in its offices in Washington, D. C., before Examiner Andrew J. Banks. The case involves suspended charges for railroad pick-up or delivery service on interterritorial traffic from or to points in Eastern territory, published in Agent Boin's Tariff No. 102-H, to become effective September 10.

Trailer Makers

(Continued from page 20)

range market goals can be realized will depend to a large extent upon the success of the Trailer Coach Manufacturers Association. Organized early in the 'thirties, TCMA now represents about 75 per cent of all producers and is the industry's resonant voice in Washington and before the public generally. With an ample promotional and public relations budget (including \$175,000 a year earmarked for "trailer-acceptance" advertising), a fulltime staff of nine, and a sound industry co-operation program, the association has become one of the nation's most influential trade organizations.

In Washington it has hammered home its contention that trailers are essential housing. During most of the last war, trailers were classified as "transportation," and, as such, were denied certain benefits enjoyed by essential industries. Today, trailers are recognized as "mobile housing" by such government agencies as the National Security Resources Board, the National Production Administration, the Atomic Energy Commission, the Housing and Home Finance Agency, and the military services.

There is other evidence that TCMA's Washington activities are paying dividends. Ten years ago when Congress placed a seven per cent excise tax on new automobiles, it placed a similar levy on house trailers, theorizing that both were means of transportation. As first presented to Congress, the current tax bill would have hiked the excise tax to 20 per cent on both autos and trailers. The House, after hearing the trailer makers' story, cut the trailer tax back to seven per cent and the Senate later eliminated it entirely on house trailers.

Like other industries, the trailer makers are being squeezed by material restrictions these days. Despite order backlogs ranging from four weeks to several months, most producers' aluminum and steel requests have been pared down sharply during the current quarter, and the industry as a whole will probably be restricted to a fourth-quarter production of about 8000 trailers, compared with 15,000 or more units in earlier quarters of this year. Just how the industry will fare next year is a subject of considerable speculation. With Washington threatening even deeper cuts in metal allotments, indications are the trailer makers will have to depend more and more upon substitute materials if they are to cope with the tremendous demand for "emergency housing."

Most trailer manufacturers are already employing alternate materials to stretch their metal supplies. Some have substituted masonry (which could be used for trailer exteriors were it not for the public insistence upon metal) and other composition materials in trailer tops. Others are using metal-substitute throughout interior finishes.

Apart from immediate problems of taxes and material shortages, the trailer industry's consuming irritation is the management—or, rather, the mismanagement—of trailer encampments throughout the country. To an industry man, a good trailer camp is a "trailer park" and the bad camps he would prefer to forget or, better still, have erased altogether.

As most motorists recall, many World War II trailer colonies were an unsightly blot on the landscape. Many came to life by accident when a wandering trailer family pitched

camp behind a wayside tavern. Other trailerites, observing their mobile kinsman, would then draw up to form the nucleus of a trailer camp that was unplanned and unsupervised. It is not surprising that the early camps provoked a storm of community resentment.

When TCMA examined the problem shortly after the war, it reached the conclusion that more could be accomplished by encouraging the development of new "trailer parks," than by undertaking the well nigh impossible task of cleaning up many of the eyesores then in existence. Since then, TCMA has campaigned vigorously for good "parks." Its institutional advertising depicts "mobile living" in shaded and trellised parks equipped with recreation areas, laundries and concrete patios.

Its architectural committee helps new operators plan and develop such parks, and it discourages a prospective operator from building a park with less than \$50,000 to invest in the venture. It also discourages operators from locating large parks in areas where the average one-in-three trailer families with school-age children would overtax neighboring schools.

Model "Park" Law

In 1947, TCMA drew up its first "model trailer park regulatory ordinance," which in more or less parallel form has been enacted by 10 states* and a number of local municipalities. The model law has forced scores of operators to improve—or close—their camps. Now the association is helping the U. S. Public Health Service in the preparation of a national ordinance which will carry the weight of Washington endorsement.

The face-lifting campaign is showing results. In 1947, TCMA regarded about half of the existing 6,000 trailer camps as "satisfactory." Today, it believes 3000 of the nation's 9000-odd camps are "excellent," and another 3000 are "good."

Approaching the community problem from another direction, TCMA has been circularizing local officials and community leaders with pamphlets and fact sheets emphasizing that trailer occupants these days are responsible, better-than-average-in-

come families—in a word, "assets" to any community. A recent fact sheet pointed out, for example, that the combined purchasing power of trailer coach families living in California is about \$450,000,000 a year, "most of which is spent in the communities in which the trailer families live."

Future Market?

If the campaign for better trailer parks and better community relations succeeds, the trailer makers will have accomplished a major portion of their postwar goal. But when industry members get together, the big question still is: What is our future market? If the industry has been expanding too rapidly, it has only been due to necessity. It had to expand to accommodate demand. As for the future, the industry may have to cut back, but with popular acceptance of trailer living steadily growing there is an increasing feeling of long-term security among the manufacturers.

Last year the industry called upon Booz, Allen and Hamilton, the management consultants, to appraise the

house trailer business and its future prospects impartially. Their analysis was written in warm terms of optimism—with several "ifs" attached. The trailer makers, said BA&H, were far too apprehensive regarding the "basic soundness" of their industry. They needed to recognize the size and importance of their industry, they needed to work even harder to develop "normal" markets among the three great potential buyers: (1) retired couples, (2) the migrant worker, (3) vacationists, and (4) those who, if they tried it, would probably prefer the freedom of trailer life.

If these markets are soundly developed, the analysis concluded, "the growth potential of the industry is almost unlimited." Indeed, said BA&H, the industry can sell an annual "normal" average of better than 80,000 trailers to this permanent market if it takes full advantage of its opportunities.

More and more the trailer makers are feeling their own strength. They may have wavered before, but today they believe their goal can be realized.

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* The Illinois legislature passed a "model" ordinance this spring, but it was subsequently vetoed by the governor.



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New Products

Chemical Lawnmower!

Every summer weary menfolk stop their lawnmowers, wipe their brows, and ponder the wonders of a chemical that would keep the grass just high enough and never too high. Well, the Naugatuck Chemical Division of U. S. Rubber Company may have come up with a chemical that very nearly performs such magic. Called "maleic hydrazide," it has been extensively tested on Connecticut roadside grass as a means of retarding growth and thereby slashing highway upkeep costs. Treated areas, the company reports, required only two mowings throughout the spring and summer. The product is still in the experimental stage, but—hopefully—it may promise great things for the man who hates the sight of a lawnmower on Saturday mornings.

Safety Plug

A safety plug that sharply reduces the danger of electrical fires due to damaged extension and lamp cords has been developed by F. H. Smith Manufacturing Company, 3037 Carroll Avenue, Chicago. Called "Fireguard," the device is a double outlet fuse coupling that fits standard wall sockets. If an electrical appliance that is plugged into the Fireguard develops a short, the Fireguard fuse instantly breaks the circuit before a fire hazard develops.

Foam Rubber Adhesive

Anchor Adhesives Corporation has introduced a new adhesive called "Softseam," for fabricating foam rubber. The adhesive's big advantage is that the cemented seam it forms remains soft and flexible, making it possible to fabricate intricate foam rubber shapes in pillows, mattresses, upholstered chairs, and the like. The manufacturer is at 36-23 164th Street, Flushing, N. Y.

Leather Restorer

Ramcote Products, 1141 W. 69th Street, Chicago 21, says it has a flexible coating that restores and beautifies leather, leatherette or canvas in automobiles. You spray "Ramcote" like paint, it dries in about two hours to a tough film that still

retains the original grain of the leather.

Fluorescent Chalk

A fluorescent chalk which glows like neon when illuminated. Blacklight has been developed by Norco Products Manufacturing Company, 392 Bleeker Street, New York, N. Y. Used on classroom blackboards when movies or slides are being shown, the chalk is clearly visible in the dark. In plants it can be used for marking signs and bulletins and, with Blacklight illumination, becomes an eye-catcher even at some distance.

Lab Monitor

Nuclear Instrument and Chemical Corporation, 229 W. Erie Street, Chicago, has developed a new laboratory monitor, called "Radiation Sentinel," which is said to simplify readings. It has a switch-controlled four-inch meter that indicates either count rate or geiger tube voltage. The instrument covers five ranges for a maximum of 50,000 counts per minute full scale, and is equipped with a switch for selection of two, five or 15 per cent statistical accuracy.

Soft Cushion

Gilman Brothers Company, Gilman, Conn., has developed a new protective cushioning material of cotton fibers, called "Celluliner," which is said to be four times as resilient when used for packing as conventional crepe wadding. Thus the company says you need much less Celluliner when packing fragile articles. The packing comes in rolls and sheets, four to 80 inches in width, or it can be die-cut by the manufacturer for special requirements.

Backyard Fairway!

A. E. Peterson Company of Glendale, Calif., believes it has a gadget that will delight every golfer's heart—especially those who like backyard practice. Peterson's "Folda-Fairway" looks slightly like a set of rocking chair rockers held about three feet off the ground by a metal tube. A golf ball is su-

Chicago Leads In Fire Prevention

Last year Chicago was awarded first place among cities of more than 500,000 population in the national program of the U. S. Chamber of Commerce to reduce the waste of fire. It was Chicago's sixth such award in as many years.

This record was made possible primarily through the efforts of the Chicago Association of Commerce and Industry, which carries on through its fire prevention department a year-round program to reduce fire hazards and to educate Chicagoans in ways to reduce loss of life by fire.

The Association's work is carried on in cooperation with the Chicago Fire Department and the Cook County Inspection Bureau. Its program includes each year hundreds of fire prevention talks on radio and television and in business establishments. During National Fire Prevention Week, outdoor mass meetings are held, fire fighting equipment and fire prevention materials are publicly displayed, and thousands of outdoor posters and leaflets are distributed. Part of the Association's program is its work with Chicago's 500,000 school children, many of whom participate in a fire prevention poster contest conducted by the Fire Prevention Committee.

The Association's fire prevention program is only one of many valuable contributions to Chicago made each year by the 5,000 business firms which comprise its membership. All of the Association's work, either directly or indirectly, benefits your business.

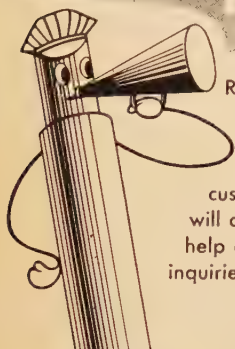
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pended on a cord at one end and travels, when hit, in an arc that lands it in one of a series of slots on the far end of the "rocker"—the slots indicate whether the ball was

driven straight, hooked, sliced, or worst of all—driven out of bounds. A pointer scale at the side indicates the distance of the drive. The device sells for under \$25.

For Better Quality

(Continued from page 17)

quality of the product was improved. Rework was almost eliminated. Paint consumption was reduced about 23 per cent.

Here is a different kind of extra dividend. A molding job in our Canadian foundry was consistently running 40 per cent scrap. After three weeks study, the quality control section found the trouble and corrections were made. Now the job runs about three per cent scrap — an improvement of 92 per cent!

But, again, we were rewarded with an unexpected dividend. Since the molder on the job was paid only for good castings, his earnings increased. In no time, other molders were asking that quality control charts be placed on their jobs. Consider what this can mean in the way of improved employee morale and increased pride in one's performance.

But let's move entirely out of metal working and into a plant department where parts orders are filled. When order fillers find no stock in their bins, they make out shortage tickets. Processing the tickets to the point where suppliers could be called on for replenishment parts consumed 90 hours. Then the quality control section went into action. When it charted the flow of these tickets for the benefit of employes and supervisors involved, suggestions for improvement poured in. Ultimately, the 90 hours required for processing was cut to seven hours!

This offshoot of statistical quality control — we call it "charting technique" — tends to accomplish the same results without using many of the statistical formulae. It is a case of one picture being worth a thousand words. Charts alone won't improve quality or performance, but they do point to the place where corrective action must be taken. In the parts department the charts so impressed the employes that they

themselves came up with the suggestions we needed.

In this same service department there is the constant risk of human error — incorrect counts, improper identification of parts, mixed stock and the like. The volume of orders made a 100 per cent inspection check uneconomical. After the quality control section studied the problem, it introduced a sampling plan to get a perspective of the quality of orders shipped. The plan enabled us to calculate the total number of errors made by the department and by each order filler.

Soon every order filler had before him a chart indicating the number and kinds of errors he made, and you can guess what happened. He tried to beat his own record. Later checks showed errors down 10 per cent! And consider the extra dividend in the form of customer satisfaction.

Truck Shipments

A similar problem troubled the Harvester division which packs motor trucks for export. Formerly the division assembled export trucks and then tore them down for crating to be sure all the parts would be in the shipment when the overseas customer reassembled the truck. This procedure was abandoned, however, in favor of a system under which we omitted pre-assembly and just attempted to pack the right number of parts and components in the export crate — two trucks, incidentally, to a crate.

Under the new system, errors averaged 60 for each 100 trucks shipped. You can imagine a customer's dissatisfaction in, say, South Africa when he lacked a part for completing his truck! But quality control investigated and soon established a control plan which reduced errors to four per 100 trucks shipped—a reduction of 93 per cent.

And, again, the extra dividend. Our parts packers were so proud

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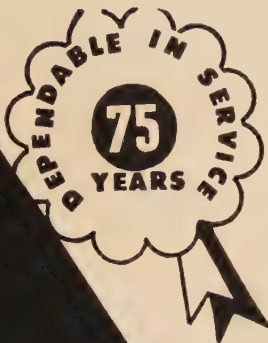


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of their performance as reflected by the control charts and so scornful of the careless few who permitted the charts to slip "out of control," that we finally had to transfer the offending employees. That brought the job under control again.

Harvester operates 12 foundries in the United States as an industry within an industry, in which we have installed quality control with marked success.

On one of our foundry jobs we have two men ramming the drag half of the mold. Although mold hardness is very important, quality control analysis revealed wide variations in hardness. It was then found that the drag molder wasn't ramming his side of the mold hard enough, but even after seeing the control charts, he remained indifferent to the whole procedure. Finally, when he went on his vacation, his replacement brought up the hardness and held it. Thereafter the regular man had no choice but to continue the improved standard.

Scrap Reduction

Elsewhere in our foundries we have discovered the cause of and stopped the delivery of sagged cores to the molding unit. Our Indianapolis foundry, during the first 10 months of this fiscal year, reduced scrap from 3.61 per cent to 2.6 per cent — an improvement of 27.8 per cent. Statistical quality control enabled us to work out the relationship between the hardness of the headface and the cylinder bore of one of our new engines, something

very important to us. We no longer have to guess at the relationship or, worse still, saw a piece out of each block and take the hardness of the cylinder bore.

In another foundry where cylinder blocks and heads are cast, an elaborate venting system is used to eliminate core gas. Sometimes, however, iron seeps in and blocks the vent, then the blocked gas blows a hole in the casting. On one job where vent iron and scrap were both high, quality control analysis showed that 15.8 per cent of the castings had vents plugged with iron. When the method of making venting systems was changed, the percent of castings plugged with iron dropped to 9.5.

Other changes failed to produce further improvements, although the control charts showed that one shift was having considerably more vent iron than the other shift. Finally, we discovered that one core maker had a special set of vent pins, which he stowed away in his locker at the end of his shift. When measured, they were found to be so long that they left only 1/32 of an inch between the end of the vent and the casting surface. They were cut to correct size and vent iron dropped to five per cent — an improvement, after many months of quality control investigation, of 60 per cent.

To return to the machine shop momentarily, I recall one case in which the machine, and not the product, was improved by quality control analysis. The trouble was in machining gear teeth. Extreme dimensional variations caused con-

siderable scrap on subsequent shaping operations. A batch of blanks which met specifications were fed into the gear cutter. The quality control section took readings and in plotting the data, got two normal distribution curves — in shop slang called "double distribution," to experts, "bi-modal distribution." Since the part was held stationary while the head of the machine moved up and down, the trouble had to be the holding fixture or the head.

"Extra" Dividends

Upon examination, the fixture was found to be all right, but the head had play in it equivalent to the spread between the two normal distribution patterns. The machine tool supplier remedied the head play and the operation has run satisfactorily ever since. Thus, in some thing like five days, statistical quality control put its finger on a sore spot which had troubled the manufacturing works for two years.

Statistical quality control has also paid us extra dividends by challenging machine tool performance. At one of our motor truck plants, we recently received five new lathes for machining axle shafts. Ordinarily we run new machine tools for a probationary period before accepting them from the manufacturer. In this case we applied quality control procedures and discovered the lathe could not hold a specified tolerance of 5/1000 of an inch.

We could not accept the machines, nor could the supplier improve the performance to meet our specifications. At this point, our quality control analysts stepped in. They found the shafts were being sprung by the method of chucking. We then made a new type chuck in our own tool room which enabled the tool to hold, not to 5/1000, but to 3/1000 an inch—well within our specifications. The machine tool manufacturer now uses this chuck on all similar machines.

Statistical quality control is being used more and more in our plants to facilitate changes in engineering tolerances. At many of our works, when the manufacturing department requests changes in specifications based on machine tool or process capabilities, it is quite common to include with the request



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the charts showing the capabilities of the tool process involved.

We have ample evidence that our employes wholeheartedly favor statistical quality control. In many cases, after the charts have spotted the trouble, corrections have been made and the charts have been removed, we find our people asking that the charts be returned. They spark competition and give a man wanted recognition. They record his skill and workmanship for all to see.

One employe told us he first thought that quality control was a bright idea to cut his piece rate. Now listen to him. "Quality control is like a new pair of shoes," he writes, "they bother you a little at first — then you can't go without them."

Last fall in one of our gear and shaft grinding departments, after a quality control study was completed and the charts were removed, a delegation of workers set out to get the charts back. Their argument: their work was better than the night shift but without the charts no one knew it! You can be sure they got their charts back.

Versatile Tool

Because statistical quality control is such a versatile tool, no one can guess where it will stop in our company. In one plant alone, we now have quality controls on 24 different kinds of non-manufacturing activities ranging from charts on individual and departmental expeditors to the delivery of blueprints from the engineering department. In the same plant we are investigating the application of quality control to the typing of invoices, the accuracy of invoices, the processing of export orders on electrical accounting machines, the typing of receiving tickets, the writing of purchase orders, labor turnover, value of commodities by months, inbound and outbound shipments, discount periods and payments on invoices, errors made in shipments, freight charges from suppliers, promises of shipment from suppliers, packaging of service parts, filing — the list could be greatly extended.

Why is it possible to extend statistical quality control beyond the machine shop and earn extra dividends? The answer is simple. Any-

thing that can be measured is subject to statistical analysis. There is nothing mysterious about it, for it is simply the systematic and logical collection, analysis and presentation of pertinent data.

Consider what the quality control engineer does. He goes into operation at the request of somebody who has a problem. He collects all the facts — or to put it another way, all the statistics.

Then he analyzes the facts with his statistical tools. You don't have

to understand these technical tools. You don't have to know what a corp chart is, or how an average and range chart is made, because the engineer presents his data in the form of a picture that any person can understand. That picture is the quality control chart.

What more do you need for the solution of any measurable problem than collecting the facts, analyzing the data, and seeing the picture of the trouble?

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should keep our aim set on the routine uses of statistical quality control. We should concentrate on seeing how versatile we can make the tool. I can see the day ahead where we are going to reap the largest of all possible extra dividends — improved employe relations and improved human relations — for that is the basic thread that runs through all the cases I have cited.

Today management must see to it that their people keep up, not only with the routine statistical quality control applications, but also the extensions of the principles into steadily wider fields. This is true of any science; the individual cannot by himself keep track of everything that is going on.

Indeed, management has but one hazard to fear from statistical quality control. It will present itself on the day when someone installs a quality control chart on the performance of the boss!

(The foregoing article has been adapted from a speech delivered by Gen. Campbell on October 3, 1951, before a Defense Problems School meeting, jointly sponsored by the Chicago Association of Commerce and Industry and the American Society for Quality Control.)

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(Signed) ALAN STURDY, Editor.

Sworn to and subscribed before me this 15th day of October, 1951.

(Seal) (Signed) VORIS D. SEAMAN.

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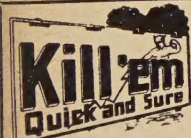
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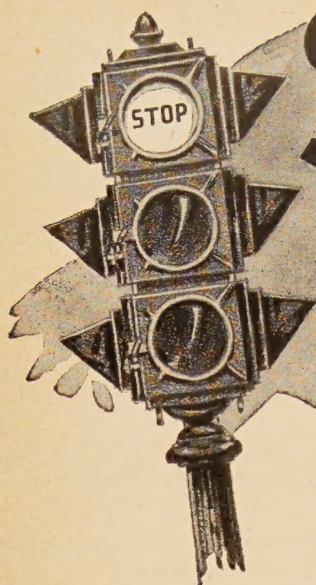
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STOP ME-IF—

The very rich man was interviewing an applicant for the job as his personal valet. "You may have trouble with me," he said. "I have a wooden leg, a glass eye, a toupee, an artificial arm and false teeth." "That won't bother me," replied the applicant. "I used to work on an assembly line."

Two men were discussing the coming marriage of their buddy. "He is getting a wonderfully accomplished girl," said one. "She can swim, ride, drive a car, play golf and pilot a plane. A real all-around girl." "They ought to get along," observed the other. "He learned to cook in the army."

Seems like every time history repeats itself the price has gone up.

"I've got a pretty distasteful job before me," remarked the genealogist. "Mrs. Newrich employed me to look up her family tree, and I've got to inform her that one of her relatives was electrocuted!" "Why worry about that?" said his friend. "Just write that the man in question occupied the chair of applied electricity at one of our public institutions."

First Little Boy (in hospital ward): "Are you medical or surgical?"

Second Little Boy (puzzled): "I don't know. What does that mean—medical or surgical?"

First Little Boy (disgusted at other's ignorance): "Were you sick when you came or did they make you sick after you got here?"

Coroner: "Were there any powder marks on the body of the deceased man?"

Wife: "Certainly there were powder marks—that's why I shot him!"

Mother (examining toy): "Isn't this rather complicated for a small child?"

Clerk: "It's an educational toy, Madam, designed to adjust a child to live in the world today; any way he puts it together it's wrong."

Wife to hubby—"You swore terribly at me in your sleep last night."

Hubby—"Who was asleep?"

Women need never expect to be men's equals until they can sport a large bald spot on top of their heads and still think they're handsome.

Sign at factory gate—"Anyone who likes work can have a whale of a good time here."

Patient—"Five dollars seems like an awful lot of money for pulling a tooth. It's only about two seconds work."

Dentist—"Well, if you wish, I can pull it very slowly."

When Jones met his old friend, Smith, whom he hadn't seen in six months, he was shocked by his altered appearance. His face looked haggard, his eyes held a glassy stare, and the way his clothes draped his frame spoke eloquently of a considerable weight loss.

"Good heavens, man!" Jones exclaimed. "Have you been ill?"

"No," Smith answered wearily; "but my wife is on a reducing diet."

A haughty dowager visited the hospital to see her chauffeur, badly injured in an auto accident. The head nurse hesitated.

"He's a very sick man and should see no one but his family. Are you his wife?"

Highly indignant, the dowager blurted out: "I certainly am not—I'm his mistress!"

The teacher was trying to get over the intricacies of subtraction. "You have ten fingers," she said. "Suppose you had three less, then what would you have?"

"No music lessons," Johnny replied promptly.

"I just got out of prison this morning," a traveller told a fellow traveller on the train. "It's going to be tough facing old friends."

"I can sympathize with you," answered the other. "I'm going home from the State Legislature."

Judge—"Are you guilty?"

Prisoner—"I haven't heard the evidence yet."

Freshman Son: "I'm registered for Political Economy at the University, Dad."

Father: "Why learn to economize in politics? It isn't being done."

A tramp had heard that obese ladies were a soft touch. They were so good-hearted that they would give unstintingly and without question. He selected one and put on his act.

"Lady," he entreated, "please have mercy on me. I haven't eaten for four days."

"My," she gasped, "I certainly wish I had your will power."

Personnel Manager—"We can pay you seventy dollars a week now and seventy-five dollars a week in six months."

Applicant—"Thank you. I'll drop back in six months."



"They couldn't help you, eh?"